

Revision of the Cucujidae of America
North of Mexico.

By Thos. L. Casey.

VH
P. Ray

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INTRODUCTORY NOTE.

The following revision has occupied all the time which I could conveniently spare from my professional duties for the past four months, and has involved more labor than I anticipated. My design was to give descriptions and figures,—drawn as carefully as possible from the insects themselves,—of every species known to our fauna, not only in order to facilitate the identification of cabinet specimens, but to show as plainly as possible the wonderful and very varied structures to be met with in this group of genera. I trust that my objects have been accomplished with at least partial success.

The descriptions of genera have for the greater part been drawn from Lacordaire's *Genera des Coléoptères*, with such additions and adaptations as were found necessary for our species. The general scope of the family is that given in the classification of the Col. of N. A. by Drs. LeConte and Horn. The synonymy of *Hemipeplus* has been drawn from Dr. Horn's paper on that subject. The position of the genus *Narthecius* at the head of the Cucujinae was first proposed by Mr. Crotch in some unpublished manuscript notes; the same distinguished entomologist also recommends the fusion of *Silvanus* and *Nausthius*, but I think unnecessarily.

I have to give my most sincere thanks to Drs. LeConte and Horn, as well as to Mr. E. A. Schwarz for the unlimited use of their cabinets and libraries.

As is well known it has long been a disputed question whether the Silvaninae properly form a part of the Cucujidae or Cryptophagidae, but as the group possesses characters common to both and, as it were, forms a connecting link between them, it is a matter of very little importance to which family we attach it. The differential characters, however, do not appear to me to be sufficiently important to warrant us in considering them a distinct family.

As at present organized, therefore, we have the following general characters:

Mentum small, slightly rounded in front, usually transverse, and very short.

Ligula corneous or coriaceous, of variable form, prominent. Palpi short three-jointed. Maxillae bilobed; palpi rather short, four-jointed.

Antennae eleven-jointed, inserted on, or slightly under, the lateral anterior angles of the head, filiform or terminated by a slight club, the first joint usually elongated, sometimes to a great degree.

Eyes usually small, though in a few instances very large.

Head large, usually joined closely to the prothorax, but sometimes, as in *Cucujus*, connected thereto by a very distinct neck.

Prothorax with side pieces and upper piece not separated. Pronotum generally not contiguous with base of elytra, and frequently having two lateral longitudinal lines, which are the lines of intersection of the lateral and superior surfaces.

Anterior coxal cavities in some sub-families closed, in others open behind, separated by the prosternum.

Mesosternum moderate, sometimes the portion between the middle coxae is quite broad, and sub-quadrate. The epimera reach the coxae.

Metasternum large and quadrate, episterna long, narrow and covered.

Elytra more or less rounded behind; flat, sometimes strongly margined, but in others not at all so, covering the entire abdomen except in a few cases. Scutellum small.

Abdomen with five free ventral segments.

Anterior coxae variable in size and sometimes closely approximate—*Hemipeplus*—globular or sub-conical. Middle coxae not prominent, sub-triangular. Posterior coxae transverse, nearly contiguous.

Legs rather short, femora large, tibiae slender, terminated by two spurs. Tarsi very variable, sometimes heteromerous in the males, and pentamerous in the females, usually with the first joint small, and pentamerous in both sexes.

The family is composed of a comparatively large number of genera, which, as may be seen from the above analysis, are very heterogeneous in many respects, but which preserve in common, except in *Silvanus*, a certain general *facies*. The species are generally flat and elongated; sometimes excessively so, and of a sombre tint. They are found generally under bark, and are usually moderate in their movements, although *Telephanus velox* runs with the most remarkable swiftness.

Employing the table in the above mentioned work, we have the following five sub-families:

- Anterior coxal cavities closed behind; tarsi not lobed beneath, with the fourth joint smallI. SILVANINAE.
 Anterior coxal cavities open behind; maxillae covered by corneous plates.
 II. PASSANDRINAE.
 Maxillae exposed.....III. CUCUJINAE.
 Anterior coxal cavities closed behind; tarsi with the third joint lobed.
 Fourth tarsal joint not smaller than the third.....IV. HEMIPEPLINAE.
 Fourth tarsal joint very small.....V. TELEPHANINAE.

Sub-family I.—SILVANINAE.

Tarsi pentamerous in both sexes. Fourth joint very small. Maxillae exposed. Ligula entire, or slightly emarginated, rarely bilobed. Antennae terminated by a small, but distinct, club.

Two genera are indicated as follows:

Club of antennae formed by abrupt enlargement of last three joints.

Silvanus.

Club of antennae formed by gradual enlargement of joints.....**Nausibius.**

SILVANUS Latr.

Body more or less elongated, somewhat depressed. Labrum short. Mandibles short, and provided with a densely ciliated membrane. Last joint of palpi gradually attenuated, or obconical, and truncated slightly at the extremity. Head sub-quadrate. Eyes small, rounded and coarsely granulated. Antennae, with joints one and two, larger; three to seven smaller, sub-equal; eight, smallest; nine to eleven, forming a loose club. Elytra elongated; sides parallel, or slightly convex, not margined. Tarsi with first joint large; fourth very small. Elytra covering entire abdomen, punctato-striate.

The species of this genus are small, found under bark, or in articles of commerce, and many of them are cosmopolitan. All are punctured; the punctures on the elytra are circular impressions of rather larger size, and are arranged in rows, so as to present, under low magnifying power, the appearance of striae. There are in addition to these rows of punctures, regular lines of setae, which, in general, are short, recumbent and bristle-like, but which in some cases become so long and slender as to constitute pubescence as in *S. rectus*.

The following arrangement may be adopted at present, there being two very distinct divisions:

- A.—Lateral edges of prothorax strongly and acutely dentate.
 Genae large and distinct.....I. **surinameusis.**
 B.—Lateral edges of prothorax not dentate, finely granulate; genae very small, or invisible.
 Prothorax as long, or longer than broad; sides more or less sinuate.
 Prothorax strongly narrowed behind.

- Body strongly punctured.....2 **bidentatus**.
 Body less densely punctured3. **planatus**.
 Prothorax sub-quadrate; very feebly narrowed behind.
 Sides nearly straight.
 Body densely punctured.....4. **imbellis**.
 Body very feebly punctured.....5. **quadricollis**.
 Sides strongly bi-sinuate, teeth very prominent.....6. **gilæ**.
 Prothorax broader than long. Small species.
 Small, but distinct tooth at anterior angles of prothorax.....7. **advena**.
 Anterior angles of prothorax not toothed.....8. **rectus**.
 Anterior angles of prothorax indistinctly toothed, body more depressed;
 densely and coarsely punctured.....8. **opaculus**.

1. **S. surinamensis** (Linn.)—Elongated, body dark brownish castaneous, clothed with light setaceous pubescence. Prothorax with two lateral lines and one median, of closer pubescence; sides evenly arcuate, and provided with six teeth, separated by deep and always well-marked excavations. Antennae slightly exceeding the prothorax in length. Length 2.5 mm.

Cosmopolitan. Plate IV, Fig. 1.

An exceedingly well-marked species; carried by commerce all over the globe.

2. **S. bidentatus** (Fabr.)—Elongated, body ferruginous, very opaque, and densely punctured. Anterior angles of prothorax sharply toothed. Length 2.7 mm.

Cosmopolitan. Plate IV, Fig. 2.

Distinguished by length of thorax, and the well-defined teeth at the anterior angles of same, as also by the peculiar opacity of body.

3. **S. planatus** Germ.—Body densely though rather lightly punctured, castaneous. Elytra less densely punctured, and sparsely pubescent. Anterior half of sides of prothorax parallel, then more rapidly converging. Length 2.0–2.7 mm.

This species may be distinguished from the preceding by its partly shining surface, that of the former being of perfect opacity, without a trace of lustre. The prothorax is much wider, with more imperfectly developed teeth, and with the sides much less sinuous. Less punctured, slightly smaller, and lighter colored specimens of this species from the Pacific Slope were named *S. nitidulus*, by Dr. LeConte, but I hardly think there is a doubt as to their identity with *planatus*. Locality in the present family seems to be of very little consequence.

4. **S. imbellis** Lec.—Elongated, body deeply and densely punctured; prothorax almost exactly quadrate; surface without lustre. Prothoracic teeth very slightly developed. Length 2.6 mm.

Pa., Mo., Cal. Plate IV, Fig. 4.

This is a very distinct species.

5. **S. quadricollis** Guér.—Elongated, body very light castaneous, integuments very transparent. Surface sparsely and lightly punctured, shining. Pro-

thorax much longer than broad, sides nearly straight, and slightly converging posteriorly. Last two joints of antennae anchylosed. Length 2.4–3.0 mm.

N. Y., Fla., Ga. Plate IV, Fig. 5.

May be distinguished by its generally large size and shining surface, as well by its light color.

The prothorax of this species is usually slightly elongated; specimens, however, are often seen in which it is almost exactly quadrate; to consider it, therefore, as generally sub-quadrate, as has been done in the table, would seem to be as good a course out of the dilemma as is available, when we take the structure of this part as the basis of classification. I am unable to state whether this variability of thoracic form is due to sex or to accidental circumstances.

6. *S. gilae* n. sp.—Form moderately robust, depressed; sides parallel; pubescence very short, recumbent, setiform and arranged in very closely approximate rows upon the elytra. Head sub-quadrate; sides nearly parallel behind, rapidly convergent before the bases of the antennae; surface nearly flat and finely rugulose; eyes very small; genae acute. Antennae somewhat shorter than head and prothorax together; first three joints equal in length; first slightly more robust; sixth and eighth smallest, equal in thickness, and much smaller than the seventh; joints of club but slightly thicker than the first, equal in width, last joint nearly globular. Prothorax somewhat longer than wide; nearly flat in the middle, inclined at the sides, wider than head anteriorly; sides notably bisinuate, portion between the sinuations strongly arcuate, and minutely granulate; anterior teeth strongly developed, posterior much smaller and distinct; posterior margin in the form of a very broad triangle; surface finely and transversely rugulose. Elytra equal in width to prothorax, together evenly rounded behind, somewhat more than twice as long as wide, and two and one-half times as long as the pronotum; sides parallel and very slightly arcuate; borders very narrow and distinct, not becoming narrower posteriorly; surface more convex posteriorly; minutely, and somewhat obscurely punctato-striate; scutellum excessively short and transverse. Legs very short, femora robust, tibiae curvate; first two joints of tarsi robust, remainder slender, last joint much elongated. Color throughout rufo-testaceous. Length 2.9–3.5 mm.

Arizona (Morrison).

Received too late for figuring. The species seems, however, to be very distinct.

The species considered thus far are quite elongated; the three following are much shorter, although nearly of the same width.

7. *S. advena* (Waltl.).—Rather light brownish castaneous, convex; prothorax quadrate, broader than long; sides arcuate; anterior angles with minute blunt teeth, which are followed immediately by slight emarginations. Surface lightly punctured, and sparingly pubescent; pubescence rather long. Length 1.9 mm.

Cosmopolitan. Plate IV, Fig. 6.

This species is so common as to require no further comment.

8. **S. rectus** Lec.—Color same as preceding; prothorax quadrate, broader than long; sides nearly straight; anterior angles not toothed. Surface rather deeply punctured, and covered with long setaceous pubescence. Length 2.0 mm.

Pa., S. C., Fla., Ariz. Plate IV, Fig. 7.

Resembles *advena* somewhat in general appearance; it is, however, less convex.

9. **S. opaculus** Lec.—Light ferruginous, body depressed, densely and coarsely punctured; setiform, very opaque; opacity resembling that of *bidentatus*; prothorax quadrate; length and breadth equal; sides nearly straight, and teeth not developed. Length 1.8 mm.

Cal. Plate IV, Fig. 8.

A very distinct species; it does not appear to be very common.

NAUSIBIUS Redt.

This genus may be distinguished from the preceding by the antennae, which enlarge gradually to a club. The body is elongate, very depressed, broader, as a rule, than in *Silvanus*.

Mentum deeply emarginate; ligula broadly, but not deeply emarginate, and slightly enlarged anteriorly. Elytra covering the entire abdomen, punctato-striate, and costate. First joint of tarsi much longer than second, fourth very much smaller; under surface ciliated; inner lobe of maxillae terminated by a well-marked bifid hook.

Two species are known in our fauna, which may be distinguished as follows:

Antennae placed on anterior angles of head; first joint entirely visible.

1. **dentatus**.

Antennae placed under anterior angles of head; first joint almost entirely concealed from above.....2. **repandus**.

1. **N. dentatus** (Marsh).—Deep blackish brown; body deeply and densely punctured; integuments opaque. Antennae placed on anterior angles of head in front of eyes; robust and rather short; prothorax quadrate; sides undulated, teeth six. Eyes placed at posterior angles of head; moderate, coarsely granulated. Length 3.5—5.0 mm.

Cosmopolitan. Plate IV, Fig. 9.

Distributed by commerce over the entire globe.

2. **N. repandus** Lec.—Same color as preceding; body less strongly punctured; somewhat shining, opaque, smaller and proportionally narrower; prothorax slightly narrowed behind; longer than broad; sides straight, and slightly serrulate. Antennae placed slightly under anterior angles of head. Eyes small, coarsely granulated, and placed on posterior angles of head. Length 2.8—3.2 mm.

D. C., Fla. Plate IV, Fig. 10.

Appears to be quite rare in collections. In a series which I have had an opportunity for examining in the cabinet of Mr. Ulke, the prothorax,

in many instances, seems to be quadrate, thus approaching *dentatus*. However, many other characters, not possessed in common, lead me to believe that the two species are distinct.

In Crotch's check list there is a variety of *N. dentatus* given as *N. major*. I have had an opportunity for examining this also, and find that it is simply *N. dentatus*, without any difference at all, as far as I can discover.

Sub-family II.—PASSANDRINAE.

Maxillae concealed by corneous plates, which project from the lateral borders of the buccal opening. Mentum very short, linear; ligula corneous. Elytra covering the entire abdomen. Anterior and middle coxae globular. Anterior coxal cavities open behind. Tarsi pentamerous in both sexes, first joint often very short. Body elongated, depressed, or sub-cylindrical. Antennae filiform, last joint compressed, and often carinated; extremities of mandibles simple. Head quadrate; eyes moderate, coarsely granulated.

The singular insects which constitute this sub-family are found under bark, and are, in general, much larger than those of the one last described. The various genera are quite heterogeneous in general appearance, and may be analyzed as follows:

Jugular plates more or less broad and flattened.

First joint of tarsi very short.....	Catogenus.
First joint of tarsi of normal length.....	Scalidia.
Jugular plates long and acute.....	Prostomis.

CATOGENUS Westw.

Antennae robust, joints one to ten nearly globular, first largest, second smallest; last joint compressed, and carinate along the vertex. Mesosternum flat between the middle coxae. Body elongated and quite depressed.

We have in our fauna but one species.

1. **C. rufus** (Fabr.).—Dark castaneous. Elytra deeply and closely striate. Prothorax punctured quite uniformly with the exception of a median line, which is free from punctures. Antennae inserted in the anterior portion of grooves in the side of the head, in the posterior portions of which the eyes are situated; ciliated on the sides which would naturally be brought into mutual contact. Eyes almost invisible from above, more salient from below. Length 3.8—13.0 mm.

Pa., D. C., Dac., Ariz., Neb. Plate V, Fig. 2.

This species, which is common and widely distributed, is very variable in size. The jugular plates are large, and their borders are suddenly thickened into a sort of lip.

SCALIDIA Erichs.

Head sub-oval and obtuse, not contracted behind. Epistoma emarginate in the middle. Eyes oval, small, coarsely granulated. Last joint of antennae not larger

than the others, strongly carinated, last four joints compressed successively to a greater degree. Joints of tarsi decreasing gradually in size.

But one species has been discovered thus far in our territory.

1. ***S. linearis*** Lec.—Color paler than that of the preceding species, body less depressed, sub-cylindrical. Head sub-quadrate with a deeply excavated median furrow extending from the front nearly to the posterior margin. Two small lateral furrows originating at the front, extend back a short distance, diverging slightly from the median line. Elytra deeply striate, with rows of very minute punctures in addition. Prothorax punctured except on a narrow median line. Head punctured and margined with an elevated border. Length 6.5 mm.

Texas. Plate IV, Fig. 11.

Quite rare in collections.

PROSTOMIS Latr.

Jugular pieces long and very acute, curving outward at their extremities. Mentum broadly emarginate in front. Ligula elongated and entire. Mandibles nearly as long as the head, very broad and robust, denticulated internally. Antennae about as long as the head and mandibles together; first joint large, second smaller, sub-cylindrical; third elongated; fourth to eighth globular; three last enlarged, forming a loose club, which is herissate with long hairs. Eyes small, salient. Prothorax sub-quadrate, very lightly and sparsely punctured. Elytra narrowing slightly posteriorly, striated with rows of foveate punctures, shining. First joint of tarsi very small, next three almost equal in size; fifth very long.

The only species known to us is the following:

1. ***P. americana*** Cr.—Light castaneous; body depressed, elongated, broadest across the eyes. Elytra glabrous. Length 4.8—6.0 mm.

Or., Nev.; Cal. Plate IV, Fig. 12.

Differs from the European *mandibularis* in the following particulars:

The mandibles are much longer, and the antennae are less robust than in that species; the color of our species is deeper, and the prothorax has a well-marked median furrow which does not appear—from the single specimen which I have had under examination—to be developed in the first. But it is in the jugular pieces that the greatest difference exists, those of our species being very long, slender, and attaining the tips of the mandibles, while in the European species these plates do not approach the tips within one-fourth of their length.

However, with all these differences, which must be admitted to be of minor value, I can only regard *americana* as a variety of *mandibularis*. If the genus contained a large number of species, the above differences might be regarded as specific, but in the present case there is but one form known, and as the two races resemble each other so closely we are warranted in assuming that these differences are only those due to local influence.

As to the tarsi of this genus, some difference of opinion has been expressed, Erichson maintaining a five-jointed tarsus with the first joint small. Duval dissected the tarsus and found four joints only, with the first joint bilobed. On Plate IV will be found a representation of the middle tarsus of our species as it appears to the writer under a power of about fifty diameters; and I am inclined to agree with Erichson and Lacordaire as to its five-jointed nature, both from analogy and appearance.

Sub-family III.—CUCUJINÆ.

The chief point of distinction between this sub-family and the preceding, is the absence of the corneous plates concealing the maxillae, these being replaced by small projections not separated from the other portions of the under surface by a suture. Two tribes are indicated in our fauna as follows:

First joint of antennae usually moderate; hind tarsi of ♂ four-jointed.

I. CUCUJINI.

First joint of antennae greatly elongated; tarsi all five-jointed.....II. BRONTINI.

Tribe I.—CUCUJINI.

The table of genera given in the Class. of the Col. of N. A. cited above seems to meet most requirements, and I simply transfer it with the following modifications: *Narthecius* apparently having the greatest affinity with the Passandrinae is placed first, and the striation of the prothorax given as the distinguishing feature between it and *Pediacus* instead of the position of the eyes. *Parandrita* is merged with *Læmophilus*, and one new genus is added. Thus changed the table stands as follows:

Prosternum narrow.....	2.
Prosternum wide; body depressed.....	4.
2.—Hind angles of head prominent.....	3.
Hind angles of head not prominent.	
Body cylindrical; prothorax margined.....	Narthecius.
Body depressed; prothorax not margined.....	Pediacus.
3.—Antennae not thicker toward the tip.....	Cucujus.
4.—Elytra very short; prothorax not margined.....	Ino.
Elytra long; prothorax margined.....	5.
Spurs of front tibiae unequal.....	Læmophilus.
Spurs of front tibiae equal.....	Lathropus.
5.—Second joint of antennae attached to the side of the first joint which is of abnormal form.....	Dysmerus.

In *Læmophilus* and *Lathropus* the striae on the prothorax are constant in every species and individual which I have examined, and therefore the ground for the separation of *L. angustulus* given by Dr. LeConte in his Classification will not hold good, the position of the eyes being plainly of no value.

NARTHECIUS Lec.

Mandibles bidentate at the tip; ninth and tenth joints of antennae flattened; eleventh elongated, not flattened, fusiform and acuminate at tip; second joint of labial palpi enlarged and compressed; third joint elongated and fusiform. Last joint of maxillary palpi elongated, slightly bent and prolonged in a narrow sub-cylindrical process. Eyes on side of head, very flat and nearly circular; side processes on under surface of head, resembling the jugular pieces of the Passandrinae, feebly developed.

We have but one species.

1. **N. grandiceps** Lec.—Body elongated, cylindrical, deep blackish castaneous. Head slightly larger than the prothorax which is plainly margined; punctuation fine; middle of front projected forward into a short horn-like process; upper surface provided with two lateral elevated ridges and one median furrow, none of which attain the posterior margin; there are also two small but very distinct anterior, lateral ridges which converge toward the horn-like process. Mandibles very large, evenly arcuate, and dentate internally. Eyes small, flat and more visible from above than below, rather finely granulated. Antennae slightly longer than head, enlarged toward the tip. Prothorax narrower posteriorly; sides nearly continuous with those of head, punctures finer and closer than on head; anterior angles not pronounced; posterior angles acute. Elytra entire, a little longer than the head and prothorax together, and almost imperceptibly wider than the latter; sides parallel; evenly rounded behind; not punctured, but having faint longitudinal ridges. Scutellum evenly rounded behind. Fifth joint of tarsi ornamented with ridges or striae.

Plate IV, Fig. 13, and Plate V, Fig. 1.

This curious species is of such excessive rarity that as far as my knowledge extends, only three specimens are known in the collections of the United States; one a mutilated male in the cabinet of Dr. LeConte from Pennsylvania, another in a private collection in Cincinnati, and the third, a perfect specimen in that of Dr. Horn. The descriptions and figures have been taken from the latter, which was obtained in Nevada.

PEDIACUS Schuck.

Mentum short, strongly emarginate, with the interior angles acute. Ligula bilobed anteriorly. Inner lobe of maxilla ciliated at its extremity. Last joint of maxillary palpi acuminate, that of the labial palpi oval. Labrum rounded in front. Head triangular, joined to prothorax by a short and very broad neck. Eyes moderate in size and very convex, situated at the posterior angles of the head. Antennae short and robust; last three joints suddenly enlarged, forming a loose club. Prothorax sub-quadrate, not margined; sides serrulate, or undulated. Elytra depressed, covering entire abdomen, and evenly rounded behind. Tarsi heteronomous in the male, and pentamerous in the female; first joint very small. Body elongated and very depressed.

Our species are two in number, and may be distinguished as follows:

Sides of prothorax arcuate and feebly undulated; punctuation extremely dense.

1. **fuscus**.

Sides of prothorax nearly straight, and acutely, though rather feebly serrulate.

2. **depressus**.

1. **P. fuscus** Er.—Body depressed, moderately elongated, and of a uniform deep reddish brown. Surface densely punctured, not shining, and not pubescent; sides parallel. Elytra about twice the length of the head and prothorax together, strongly marginated internally, but very feebly so or not at all externally. Eyes very convex and prominent. Antennae rather shorter than the head and prothorax together. Length 3.0—4.0. mm.

Plate V, Fig. 5.

A common European species, which is undoubtedly cosmopolitan. It is the same as *plannus* Lec., and *subcarinatus* Mann.

2. **P. depressus** Herbst.—Body strongly punctured; sides parallel; ferruginous. Surface somewhat shining. Eyes convex. Antennae in length about equal to width of prothorax, club well developed. Elytra covering entire abdomen, depressed, rather more than twice the length of the head and prothorax together, and marginated internally; sides parallel. Length 2.8—4.4 mm.

Plate V, Fig. 4.

Var. *subglaber* Lec.—The same description will apply to this variety with the following exceptions:

The head is less densely punctured posteriorly, and not punctured at all in front of the line joining the bases of the antennae. The club of the antennae is stronger, and the color of the body, which is smaller, is paler. Length 3.3 mm.

Plate V, Fig. 6.

Depressus is a common cosmopolitan species, and after long deliberation I have determined to unite Dr LeConte's *subglaber* to it as a variety. The punctuation is very different, and the latter seems proportionally broader in form, with many minor differences, but until other specimens are discovered we must leave it as above. Attention should be called to the curious malformation of the left antenna of Dr. LeConte's type of *subglaber* as exhibited in the figure.

CUCUJUS Fabr.

Mentum transverse and broadly emarginate; anterior angles acute. Ligula bilobed. Lobes of the maxillae ciliated at the extremity. Last joint of palpi slightly securiform. Mandibles robust and tridentate at the tip. Head triangular, joined to the prothorax by a short and broad neck; genae distinct and large. Eyes moderate, situated nearly in the middle of the sides, convex and finely granulated. Antennae moniliform, first joint larger, last joint elongated and acuminate at tip. Prothorax sub-quadrate, slightly narrowed posteriorly; sides irregularly and lightly denticulate. Elytra parallel, elongated and evenly rounded posteriorly, bordered externally, and covering the entire abdomen. Claws moderate; first joint of tarsi very small.

We have one species and one variety.

1. **C. clavipes** Fabr.—Bright reddish-ferruginous; sometimes clouded with darker patches. Body very depressed, sides parallel; surface finely and closely punctured. Antennae black, about equal to head and prothorax in length; covered thinly with coarse pubescence. Prothorax not marginated; surface with one median

and two lateral, longitudinal rounded ridges of very slight elevation. Prosternal inter-coxal process long, more or less acute at the extremity, toward which it is slightly swollen. Mesosternal inter-coxal process broad and squarely truncated. Lateral border of elytron equal to one-fourth of its width. Elytra covered with foveate punctures, which in some specimens seem to be aggregated into disjointed striae-like rows, while in others they have no visible order. Legs of same color as the body; tarsi darker. Length 10.0—13.0 mm.

Atlas: Slope.

Var. *punicus* Mann.—Differs from the preceding in the following points:

The body is more elongated, and usually of a brighter color. The first joint of the antennae is usually of a dark testaceous, while in *clavipes* it is black. The antennae are slightly longer, and the neck slightly narrower in *punicus*. Length 12.0—16.4 mm.

Pacific Slope. Plate V, Fig. 3.

This is a case where it seems as if simple climatic influence, and diversity of physical conditions, had worked a change in a species in a comparatively short period of time; the same is the case in *Prostomis* and *Brontes*. It is the largest species of the family in our territory.

INO De Casteln.

Antennae long, first joint large; the others moniliform, the last ovulate. Last joint of maxillary palpi long and acuminate. Tarsi slender, last joint much larger than the others. Body depressed. Head very large, broader than the prothorax, not constricted behind; eyes small. Prothorax flat, rounded anteriorly and posteriorly, sinuous laterally. Scutellum small, rounded posteriorly. Elytra quite long, flat and rounded behind. Abdomen short and broad. Legs moderate, femora broad, compressed; tibiae unarmed.

The above is the original diagnosis of De Castelnau as quoted by Lacordaire in the *Genera des Coléoptères*, and founded on a Madagascan species. It will be seen to require slight modification, at least for one of our species.

We have two species which may be distinguished as follows:

Head broader than prothorax, eyes convex,1. **reclusa**.

Head equal in width to prothorax, eyes flattened,2. **immunda**.

These characters do not appear to depend upon sex.

1. **I. reclusa** Lec.—Form moderately elongated and depressed, surface shining. Punctures of head and prothorax rather large in size, but very sparse and shallow. Integuments thin and transparent, the folds of the wings being visible through the elytra. Color very pale yellowish-testaceous. There is an almost complete absence of pubescence. Head sub-quadrate, broader than long; eyes small, but convex, in advance of prothorax, their own length. Prothorax narrower than head and smaller, broader than long, and strongly narrowed behind; sides undulated, lateral striae absent. Scutellum very small, nearly circular, and slightly concave. Elytra at base as broad as the head, gradually widen-

ing posteriorly, rounded separately behind, longer than the head and prothorax together, and leaving the last third of the second, the third, fourth and fifth ventral segments exposed. Antennae as long as the elytra, first joint moderate, sub-globular; joints two to eleven, much narrower, sub-equal, but increasing perceptibly in length toward the tip. Length 1.9 mm.

Plate V, Fig. 7.

I am aware of only four specimens, all from Texas.

2. ***I. immunda*** Reit.—Form moderately elongated and depressed. Surface shining, free from pubescence. Punctures of head and prothorax coarse, and rather close. Color of male brownish black; of female rather dark cinereo-testaceous. Head sub-quadrate; eyes small, flat and their own length in advance of prothorax. Prothorax of same width as head, very slightly broader than long, and strongly narrowed posteriorly; sides irregularly undulated. No traces of lateral striae. Elytra very slightly longer than head and prothorax together, leaving last four abdominal segments exposed, broader posteriorly; width across the base almost equal to that of head. Antennae equal in length to elytra, rather stout, coarsely and sparsely pubescent; joints sub-equal, last joint elongated, and constricted strongly near the tip into a cylindrical process, as in *Hen. ipeplus*. Length 2.6 mm.

Plate V, Fig. 8.

Originally described by Reitter. I have before me two specimens from Piney Point, Md. (Schwarz)

The principal points of distinction between the two species are the size and structure of the antennae, shape of the head and eyes, and the punctuation. The integuments in the last species also seem to be a little denser than in the first. The peculiarity in the structure of the last joint of the antennae, mentioned in the description of *immunda*, also exists in *reclusa*, but to a less marked degree.

LÆMOPHLEUS De Casteln.

Mentum very short. Ligula corneous, entire and rounded in front; mandibles generally short, bi- or tri-dentate at their extremities. Labrum transverse, usually entire; outer lobe of maxilla rounded at the extremity, where it is densely ciliated; inner lobe terminated by a corneous hook. Antennae variable. Eyes moderate or small, convex. Head not restricted behind. Tarsi with the first joint small; middle and posterior four-jointed in the male, all others five-jointed. Body more or less depressed.

In the study of this genus we are met by peculiar difficulties, although the species comprising it present a general *facies* which is unmistakable.

The males and females differ very much, and, as in the Lucanidae, the former are in most cases the larger, and often of different form. This alone serves to make the study of a mass of undescribed species a very unsatisfactory one. The antennae may be terminated by a well-marked club, may be filiform or even attenuated, and are often clubbed in the female, and filiform in the male. The first joint may be very short, very

long, or so abnormally shaped as to have no parallel, with which I am familiar, in the family of Coleoptera.* The elytra though usually covering the entire abdomen, in some species leave a large portion exposed. The scutellum may be transverse, semi-circular, or triangular. Erichson first proposed this latter peculiarity as a basis of classification, taken in connection with the emargination of the epistoma, and in my search for characters which should be unmistakable, I was led to try this method. After figuring the scutellum of each of our species, it became immediately apparent that they would not serve the purpose, because although in *nitens* the scutellum is acutely triangular with the sides almost perfectly straight, we find other species in which it possesses all degrees of transversality down to those in which it is very thin and transverse, and it would be very difficult in practice to draw the line between any divisions based on the structure of this part.

The antennae offer characters which are easily recognizable, and appear to be very constant, and which have been assumed as the basis of the following table of species.

I have in the following synopsis of the genus possibly made mistakes, and this possibility becomes stronger in those species which are European, and for the identification of which I had to rely solely on the descriptions of the various authors. I would, however, say in this connection that the descriptions and figures given in the excellent work of Sturm, "Deutschlands Fauna," are almost equivalent to a study of the insects themselves.

The following is the classification which is adopted for our species:

- A.**—First joint of antennae of normal form; second joint shorter than the third. Labrum emarginate.
- Last three joints of antennae ♂ flattened.....*
- Joints of antennae ♂ sub-equal.
- Last joint ♂ bent.....1. **terminalis.**
- Last joint straight.....2. **biguttatus.**
- Last three joints of antennae ♂ together nearly equal to one-third of their entire length.
- Projecting teeth of epistoma much rounded anteriorly.....3. **fasciatus.**
- Projecting teeth of epistoma very acute.....4. **LeContei.**
- * Labrum entire; transverse groove of head wanting.....5. **floridanus.**
- Labrum entire; antennae irregular.
- Body depressed.
- Elytra entire.....6. **chamseropis.**
- Elytra shorter than the abdomen.....7. **modestus.**
- Body convex.
- Anterior angles of prothorax toothed.....8. **convexus.**
- Anterior angles rounded, never toothed.....9. **adustus.**

* Separated as *Dysmerus*.

B.—First joint of antennae of normal form; second joint equal to or longer than the third.

Head having transverse groove.

Anterior angles of prothorax toothed.....10. **testaceus**.

Anterior angles not toothed.....11. **nitens**.

Head having no transverse groove.

First joint of antennae ♂ equal in length to the three following together.

12. **punctatus**.

First joint of antennae ♂ and ♀ equal to or less than the next two together; antennae ♂ and ♀ terminated by a loose club, formed by enlargement of the last three joints, which are sub-equal.

Sides of prothorax deeply undulated.....13. **Horni**.

Sides of prothorax entire.

Posterior angles undeveloped.....14. **rotundicollis**.

Posterior angles well marked.

Eyes large, situated at posterior angles of head.....15. **quadratus**.

Eyes smaller and in advance of posterior angles of head.

This distance equal to about three times the length of the eye.

16. **cephalotes**.

This distance equal to about the length of the eye.

Antennae moniliform and short.

Body sub-cylindrical.....17. **angustulus**.

Body depressed.....18. **Schwarzi**.

Joints of antennae elongated.

Sides of prothorax bistriated.....19. **extricatus**.

Sides of prothorax unistriate.....20. **alternans**.

21. **ferrugineus**.

Head having no transverse groove; antennae of ♂ filiform or attenuated.

Head with strong median furrow.

Eyes large, at posterior angles of head.....22. **pubescens**.

Eyes very small, in advance of posterior angles.....23. **truncatus**.

Head without median furrow.....24. **pusillus**.

C.—First joint of antennae ♂ abnormally modified.

First joint of antennae ♂ toothed.....25. **denticornis**.

1. **L. terminalis** n. sp. *Male*.—Body lightly punctured, surface shining. Head and prothorax pale brownish testaceous, together nearly equal in length to the elytra. Elytra much darker, castaneous; the middle portion of each is much paler, thus forming two vittae. Antennae equal in length to the prothorax and elytra together, testaceous; joints sub-equal, elongated; second joint smallest, last three joints much flattened; all are thickly pubescent, but the pubescence of the last joint is very short and recumbent. Eyes moderate, convex. Head triangular, width across the eyes greater than the breadth of prothorax. Prothorax narrowed strongly behind; sides arcuate and slightly sinuous. Marginal furrows very strong. Elytra slightly narrower than prothorax, strongly margined, striate and obtusely rounded behind; sides parallel, slightly arcuate. Legs moderate, pale testaceous. Length 3.6 mm.

Female.—Colors throughout same as in male; head and prothorax much shorter and narrower, together equal in length to three-fifths of elytra. Elytra of same length as in male, rather narrower, and less obtusely rounded behind. Antennae

equal to about three-fourths of elytra in length, last three joints larger, very slightly flattened, and forming a loose club. Last joint normal in shape, but rather longer than the preceding. Vittae distinct as in male. Length 2.9 mm.

Plate VI, Fig. 2, ♂.

A full series of this fine species is before me from the cabinet of Dr. LeConte, also two specimens from Mr. Schwarz, all from Texas. The peculiarity in the last joint of the male antennae is, I believe, unique in the genus.

2. ***L. biguttatus*** (Say). *Male*.—Dark castaneous, a spot of a circular outline, and well defined, before the centre of each elytron is of a lighter tint; legs and antennae a little paler. Surface densely punctured. Head triangular, eyes moderate, transverse groove strong. Prothorax narrowed behind; sides very arcuate, lateral grooves well marked. Elytra nearly twice as long as the head and prothorax together, strongly margined, striate and obtusely rounded. Antennae shorter than elytra, joints sub-equal, first joint longest, second shortest, last three joints slightly broader and flattened. Length 3.0—3.9 mm.

Female.—Color and punctuation same as in male. Head and prothorax much smaller. Antennae equal to half the length of body; last three joints suddenly larger, forming a loose club. Length 2.6—3.0 mm.

Plate V, Fig. 9, ♂.

This is a common species distributed throughout our territory.

3. ***L. fasciatus*** Mels. *Male*.—Body pale castaneous; elytra somewhat darker; legs and antennae of same color as prothorax. Surface rather lightly punctured and shining. Head sub-triangular, transverse groove well marked. Prothorax slightly narrowed behind, a little broader than head, lateral striae well marked; sides arcuate and slightly sinuous. Elytra equal in length to twice the head and prothorax together; an irregular, somewhat indefinite spot of lighter tint is usually present before the middle of each, which generally attains the exterior edges; sides sub-parallel, slightly arcuate; rather obtusely rounded posteriorly; strongly margined and striate. Antennae slightly longer than head and prothorax together, joints gradually larger toward the tip; last three broadest and flattened. Length 3.1 mm.

Female.—Colors and punctuation same as in male. Head and prothorax much narrower. Antennae a little longer than head and prothorax together, last three joints suddenly larger. Elytra of proportionally the same length as in male. Length 2.6 mm.

Plate VI, Fig. 3, ♂.

The last two species resemble each other somewhat, until closely examined; *fasciatus* may be recognized at once, however, by the antennae and punctuation; it is widely distributed.

4. ***L. LeContei*** Grouv. *Male*.—Testaceous throughout. Surface lightly punctured and shining. Head sub-triangular; eyes moderate. Prothorax equal in width to head across the eyes, narrowed slightly behind; sides moderately arcuate; lateral furrows very well developed. Elytra about one-third as long again as the head and prothorax together; equal in width to prothorax, entire, strongly

marginated, striate, and obtusely rounded behind; sides parallel. Antennae equal in length to elytra; last three joints much longer and broader; flattened. Length 2.0 mm.

Plate V, Fig. 10.

May be distinguished immediately by its comparatively small size, immaculate surface and antennae. I have unfortunately only one specimen before me, which, however, is a male. The exact locality is not given.

5. ***L. floridanus*** n. sp. *Male*.—Form moderately elongated, strongly depressed; sides parallel. Body nearly glabrous, and somewhat shining. Punctures of head and prothorax rather fine and sparse; elytra striate. Color reddish testaceous, head and antennae a little darker. Head strongly transverse, broad; epistoma tri-sinuate; labrum entire; eyes small, convex; transverse groove wanting; median line faint; mandibles large and arcuate. Prothorax transverse, narrower than head, narrowed somewhat strongly behind; sides sinuate; anterior and posterior angles acute; lateral striae rather obscure. Scutellum triangular. Elytra about one-fourth as long again as head (including mandibles) and prothorax together, narrower at the base than the latter, entire, and evenly rounded behind; sides parallel and arcuate, margined. Abdominal segments sub-equal. Antennae as long as elytra; first joint as long as eye, robust and ciliated with long hairs on the anterior surface; second small, third elongated, fourth to eighth sub-equal, and nearly moniliform, ninth to eleventh enlarged and strongly flattened, forming a loose club, last joint strongly carinated, all coarsely pubescent. Length 3.5 mm.

Plate V, Fig. 11, and Plate VI, Fig. 1.

This species appears to be very similar to *Reitteri* Grouv. from Brazil. It however differs from that species in the antennae and length of the elytra. One specimen, Tampa Bay, Florida (Schwarz).

The five species described thus far form a very distinct group, the distinguishing features of which are the great differences which exist between the male and female, and the remarkable and very heterogeneous antennae. The eyes in all are situated at the posterior angles of the head, and the elytra cover the entire abdomen. Although forming by themselves a well-marked division, they possess no differential characters of such importance as to be considered generic, and if we could separate them together as a genus, we might with equal propriety construct three genera from these five species from antennal characters alone.

6. ***L. chamærophi*** Sz.—Form rather elongated, depressed. Entire surface glabrous. Head and prothorax lightly, minutely and sparsely punctured; elytra not punctured, striate. Head and prothorax dark testaceous, integuments thick; elytra pale testaceous, thin and transparent; legs and antennae darker. Head sub-triangular; eyes rather prominent and finely granulated; transverse groove very feebly developed. Prothorax equal in width to head, rather broader than long, slightly narrowed posteriorly; sides arcuate; anterior angles rounded, posterior well developed; lateral striae prominent. Elytra $\frac{2}{3}$ of rather greater length

than head and prothorax together, obtusely rounded behind and entire; sides nearly parallel; striae faint. Scutellum triangular. Antennae ♂ equal in length to elytra; first joint broad, equal in length to eye; second joint sub-globular, third narrower, much elongated and fusiform, fourth to eighth sub-equal, last three suddenly enlarged; ninth and tenth joints perceptibly flattened; eleventh cylindrical and oblong. The female differs from the male in the antennae, which are much shorter, and in which there is no flattening of the ninth and tenth joints: the second joint is larger and nearly globular, and the third is much narrower, and of the same length as the second. The elytra are also proportionally longer. Length 1.4 - 1.7 mm.

Plate VI, Fig. 4. Southern States.

In regard to the preponderance in length of the third over the second joint of the antennae, this species gives us the only exception to the general rule of division A, in which it is regarded as common to both sexes.

7. **L. modestus** (Say).—Body elongated, dark testaceous, legs and antennae same; sides parallel. Surface nearly glabrous, shining and sparsely, though rather deeply punctured; elytra foveo-striolate. Head sub-quadrata, transverse groove very deep, median line faint; eyes small, convex, prominent and situated slightly in advance of the posterior angles of head. Prothorax slightly narrowed behind, quadrate; anterior angles rounded, posterior very prominent; sides moderately arcuate; lateral striae very distinct. Elytra equal in width to prothorax, elongated, sides parallel; squarely truncated behind, and leaving nearly the entire fifth ventral segment exposed. Antennae ♂ equal in length to the head, prothorax and elytra together, very slender and filiform, last seven joints almost exactly equal; first equal in length to last, but about twice as thick; all moderately pubescent. Antennae of ♀ same as ♂, excepting the length, which is equal to that of the elytra and projecting abdominal portion together; the eighth joint is also perceptibly smaller than the seventh, and the last three are almost imperceptibly enlarged. The first four abdominal segments in both sexes are short and equal, the fifth is almost equal in length to the first four together. Scutellum small, sub-triangular. Length 1.8—2.3 mm.

Plate VI, Fig. 5.

A common, broadly diffused, and well-marked species. There seems to be no flattening in the terminal joints of the antennae.

8. **L. convexulus** Lec.—Form broader and much more convex than that of the preceding species. Body, legs and antennae dark brownish testaceous, shining. Punctures on head sparse and coarse, those of prothorax closer and finer; elytra foveo-striolate. Head sub-triangular; eyes small, in advance of posterior angles; transverse groove and median line rather obscure. Prothorax convex, a little broader than head, slightly narrowed behind and very short; sides very arcuate anteriorly; anterior angles projecting in the form of well-marked teeth; posterior angles also prominent; lateral striae not very distinct. Elytra equal to twice the length of head and prothorax together, much broader than the latter, entire, and evenly rounded behind; sides parallel, slightly arcuate; surface covered sparsely with rather long setae arranged in rows. Scutellum evenly rounded behind, large. Antennae rather shorter than elytra, last three joints abruptly en-

larged, cylindrical and sub-equal; all the joints are coarsely pubescent. Abdominal segments nearly equal. Length 1.9—2.4 mm.

D. C., Mich. Plate VI, Fig. 6.

Does not appear to be very common.

9. ***L. adustus*** Lec.—Form convex. Surface of head and prothorax thickly and very coarsely punctured, glabrous; elytra punctato-striate. Body, legs and antennae very dark ferruginous. Head sub-triangular; eyes rather large, very convex and prominent; transverse groove not prominent. Prothorax equal in width to breadth across the eyes, very short and convex; sides very arcuate anteriorly, and converging posteriorly; anterior angles evenly rounded; posterior angles prominent and projecting; lateral grooves very well marked. Elytra equal in length to twice the head and prothorax together, convex and evenly rounded behind, entire; sides slightly arcuate; surface covered sparsely with rather short setae arranged in rows. Abdominal segments sub-equal. Antennae but slightly longer than head and prothorax together; last three joints suddenly longer, and last joint broadest, strongly flattened and broadly carinated; all coarsely pubescent. The female antennae are rather shorter, and the last joint normally conical. The epistoma also seems to be a little more acutely emarginated in the female. Scutellum transverse, sub-triangular. Length 1.4—2.0 mm.

Plate VI, Fig. 7.

A very common, widely diffused species. The elytra are usually clouded posteriorly with a darker castaneous tint.

10. ***L. testaceus*** (Fab.)—Form moderately elongated, depressed. Head and prothorax rather finely punctured; punctures of head slightly more scattered; elytra foveo-striolate; body, legs and antennae testaceous; integuments dense. Head sub-triangular; eyes moderate, convex and slightly in advance of posterior angles; transverse groove and median line very evident. Prothorax quadrate, covered with short and sparse setae; sides converging behind, slightly in ♂, almost parallel in ♀; anterior angles very plainly toothed; posterior angles right; lateral striae strongly developed. Elytra elongated; as wide as, or wider than prothorax; one-half as long again as the head and prothorax together, covering entire abdomen with the exception of the tip of the fifth ventral segment; rather obtusely truncate behind, and covered with very short and sparse setae arranged in rows; second, third and fourth abdominal segments equal; first and fifth sub-equal, and each about half as long again as the second; all sparsely pubescent. Antennae ♂ nearly equal in length to entire body, last seven joints equal and cylindrical, first joint nearly equal to the next two in length, and much the most robust of any; second and third joints equal in length. Antennae ♀ equal in length to elytra; first joint largest, last three longer than the preceding, and very slightly broader. Scutellum sub-triangular. Length 1.3—1.9 mm.

Plate VI, Fig. 8, ♀.

This is a common cosmopolitan species.

11. ***L. nitens*** Lec.—Form elongated, depressed. Head and prothorax testaceous; elytra paler, thinner and translucent; legs and antennae testaceous; surface shining; punctuation of head and prothorax very sparse and fine. Head sub-triangular; eyes moderate, situated very near the posterior angles; transverse groove well developed; median line not distinct. Prothorax sub-quadrate, as wide

as head, narrowed moderately behind; sides slightly arcuate; anterior angles rounded, posterior right; lateral striae very strong. Scutellum triangular. Elytra obtusely truncated behind, and leaving nearly the whole of the fifth ventral segment exposed in the male; slightly longer, and more evenly rounded behind in the female, glabrous and almost imperceptibly and irregularly striolate; sides subparallel. Fifth abdominal segment twice as long as the fourth. Antennae ♂ nearly as long as the body, first joint large, second smaller, third smallest; last seven joints equal and cylindrical; terminal process of last joint well developed. Antennae ♀ rather shorter, three outer joints a little wider, all joints pubescent, as is also the case with the dorsal and ventral surfaces of the abdomen. Length 1.5 mm.

Plate VI, Fig. 9, ♂.

The above description was taken from the original type-specimen in the cabinet of Dr. LeConte. Widely distributed.

The principal difference between *testaceus* and *nitens* are the following:

In *nitens* the transverse groove of the head is rounded behind, and the curve of emargination of the epistoma is very flat in the middle, but curves to the front more rapidly at the sides, while in *testaceus* the transverse groove is acutely angled behind, with the sides nearly straight, and the emarginal curve is evenly rounding throughout, broader and much more feeble. The anterior angles of the prothorax in *nitens* are, in normal specimens, evenly rounded, without any appearance of a tooth, while in normal specimens of *testaceus* this tooth is very prominent. The integuments in *nitens* are thinner and more translucent, as a rule, than in *testaceus*. The scutellum is acutely triangular in the former, and rounded behind in the latter. The elytra of *nitens* leave nearly the whole of the dorsal surface of the last ventral segment exposed, while those of *testaceus* cover the entire abdomen with the exception of the merest tip of the last ventral segment. This last differential character is the most constant of all, and is the one upon which I chiefly rely in separating these very closely allied species.

12. **L. punctatus** Lec.—Form moderately elongated, depressed; surface shining. Punctures of head and prothorax large and deep, but rather sparse; elytra striate. Color dark testaceous, elytra pale. Head sub-quadrate, deeply excavated in front of the antennae; eyes small, very slightly in advance of the posterior angles, and coarsely granulated. Prothorax wider than head, broader than long, narrowed behind; sides almost straight; anterior angles not prominent, posterior sharply defined; lateral striae double, well marked. Elytra as broad as prothorax, nearly twice as long as head and prothorax together, entire, and evenly rounded behind; sides parallel, nearly straight. Abdominal segments sub-equal. Antennae ♂ about as long as the body; first joint very robust, and as long as the three following together; second and third joints sub-globular; fourth longer; fifth to seventh equal and cylindrical; eighth smaller; ninth to eleventh elongated, and almost cylindrical; terminal process of last joint not well developed. Length 1.6 mm.

Southern States (LeConte), Georgia (Schwarz), Washington, D. C. (Ulke) Plate VI, Fig. 10.

This species appears to be very distinct; the description and figure have been taken from Dr. LeConte's type-specimen, which is a male.

The female differs materially from the male. In the former the head has no indication of the deep excavation at the sides, and the first joint of the antennae is only equal in length to the next two together. The entire antenna is also much shorter than in the male. The female was described by Dr. LeConte as *L. geminatus*. Plate VI, Fig. 13.

13. *L. Horni* n. sp.—Body depressed, moderately elongated; entire surface covered thickly with short, cinereous setae, which have no definite order on the head and prothorax, but which are arranged in closely approximate rows on the elytra; the head and prothorax are, in addition, punctured thickly, and rather coarsely. Color testaceous, integuments thick and opaque. Head sub-triangular; eyes moderate, coarsely granulated, very slightly in advance of posterior angles; sides bordered and sinuous; transverse groove not visible, no median line. Prothorax sub-quadrate, wider than head, slightly narrowed behind. dorsal surface nearly plane; surfaces between lateral striae and sides very concave; sides rather acutely and deeply undulated; lateral striae well developed. Scutellum sub-triangular and transverse. Elytra much wider than prothorax; about twice as long as the head and prothorax together; entire and evenly rounded behind, faintly costate and strongly bordered; dorsal surface flat; surfaces between lateral border and sides slightly concave; inflexed sides broad and well developed; sides parallel and arcuate; abdominal segments sub-equal; antennae a little longer than the head and prothorax together; last three joints larger; last joint largest, oblong, flattened, and strongly carinate; all densely pubescent. The female does not differ perceptibly, excepting that the last three joints of the antennae are less flattened. Length 1.8 mm.

California. Plate VI, Fig. 11.

I take pleasure in dedicating this very distinct species to a friend whose instructions have been of the greatest value to me, and to whom I feel greatly indebted.

14. *L. rotundicollis* n. sp.—Form elongated, moderately depressed; surface clothed with pubescence, which on the elytra is arranged in rows. Head and prothorax punctured as in *punctatus*. Color dark testaceous; legs and antennae same. Head elongated; eyes small, their own length in advance of posterior angles. Prothorax slightly longer and broader than head, length equal to breadth, rounded behind; lateral striae not prominent; sides very faintly and obscurely undulated; anterior angles rounded; posterior angles almost obsolete. Scutellum small. Elytra one-third as long again as head and prothorax together; as broad as the latter; entire and evenly rounded behind; sides parallel, and nearly straight. Antennae rather shorter than head and prothorax together; first joint small, first eight moniliform, eighth joint smallest, last three rather abruptly enlarged, sub-equal and not flattened; terminal process of last joint well developed. Length 1.9 mm.

South Carolina. Plate VI, Fig. 12.

Founded on a specimen in the cabinet of Dr. LeConte, where it was labeled *alternans*. Crotch, in manuscript notes, said it was rather *ferrugineus*. It cannot, in my opinion, be either, as in both these species the posterior angles of the prothorax are always prominent and well developed. It seems to resemble more closely the European *ater*, in which, according to Sturm, the posterior angles are "*stumpf*," but not having any specimen of the latter for examination this cannot be stated positively.

15. ***L. quadratus*** n. sp.—Form very moderately elongated; depressed. Surface punctured as in *punctatus*; nearly free from pubescence. Body, legs and antennae dark testaceous; integuments dense. Head sub-quadrate; anterior angles of epistoma right; excavation in front of antennae clearly defined, rounded and deep; elevated margin distinct; eyes large, very near the posterior angles, and rather coarsely granulated. Prothorax sub-quadrate, very little wider than head, broader than long, hardly narrowed behind; sides very slightly arcuate, lateral striae double, both well developed; anterior angles acute, posterior right. Elytra one-third as long again as the head and prothorax together, a little wider than the latter; entire with the exception of the extreme tip of the fifth ventral segment, which is left exposed; strongly bordered and striate; evenly rounded behind; sides parallel and arcuate; scutellum evenly rounded behind, short and transverse. Fifth abdominal segment nearly twice as long as the fourth. Antennae about one-half as long as the body, sparsely pubescent, otherwise as in *punctatus* ♀, except that the first joint is shorter and more robust than in that species. Length 1.7 mm.

Gulf States. Plate VII, Fig. 1.

This species resembles *punctatus* ♀, but differs from that species most notably in the epistoma.

16. ***L. cephalotes*** Lec.—Form moderately elongated; depressed. Surface shining. Punctures of head coarse, those near the middle section so large as to constitute pits, decreasing in size and closeness anteriorly and posteriorly; punctures of prothorax much finer, with about the same degree of approximation; elytra striate, striae punctured; entire surface covered very sparsely with exceedingly minute, erect setae, those on head and prothorax apparently belonging to the punctures, those on the elytra arranged in rows. Color black, a longitudinal area occupying the entire interior of each elytron is a pale testaceous; legs and antennae dark testaceous. Head very large, quadrate; labrum emarginate; mandibles large, arcuate and prominent; eyes very small, situated on the sides before the middle; there is a deep elongated pit in the surface of the head near the base of each antenna. Prothorax of same width as head, broader than long, narrowed behind, much smaller than head, narrowly bordered; sides nearly straight; anterior and posterior angles well marked; lateral striae well developed, and not attaining the anterior margin. Elytra equal in length to head and prothorax together, slightly narrower than the latter, evenly rounded behind and entire; sides parallel. Scutellum sub-triangular, and rather large. First abdominal segment nearly twice as long as the second, last four equal in length. Antennae equal in length to the elytra; first joint very moderate, oval; joints two to eight moniliform, ninth abruptly larger and flattened, last joint more elongated, narrowed very slightly, flattened and fusiform. Length 2.4–2.6 mm.

Plate VII, Fig. 2.

This singular species was placed by LeConte in his genus *Parandrita*, but there is apparently no valid reason for such separation. The reason given in the classification, viz.: the emargination of the labrum, will not hold good, as this is a peculiarity of many other species acknowledged to be genuine *Laemophlaxi*. It belongs probably to the same group as Wollaston's *axillaris*, from Madeira, and is still more closely allied to Grouvelle's *capito* from Mexico.

It seems to be quite rare in collections; one specimen (Horn)—three specimens (LeConte)—all from Southern California.

17. *L. angustulus* Lec.—Form elongated, narrow and sub-cylindrical; sides parallel. Surface punctured, elytra striate and sub-costate; punctures of head coarse, close and elongated, those of prothorax finer. Color of body, legs and antennae testaceous. Head sub-triangular; eyes small, not prominent, on the sides and well advanced; surface not pubescent. Prothorax of same width as head, longer than wide, and slightly narrowed behind; anterior and posterior angles well marked; sides nearly straight; lateral striae moderately distinct; surface covered sparingly with pubescence. Elytra a little longer than the head and prothorax together, of same width as the latter; entire and evenly rounded behind. Metasternum very long, so that the abdomen is hardly one-half the length of the elytra. Abdominal segments sub-equal, the first a little longer than the others. Antennae short, slightly longer than the prothorax, first joint moderate; joints two to eight smaller, sub-globular; last three rather abruptly enlarged and flattened, forming a loose club. Length 2.0 mm.

Plate VII, Fig. 3.

Also appears to be a rather uncommon species. I have specimens before me from D. C. and Col.

18. *L. Schwarzii* n. sp.—Form elongated, depressed; sides parallel; surface of head and prothorax not distinctly punctured, but rather coarsely granulated. Elytra striate and bordered; entire surface pubescent. Color testaceous, antennae same, legs a little paler. Head sub-triangular, eyes small, advanced and convex. Prothorax a little wider than head, as broad as long, perceptibly narrowed behind; sides arcuate; anterior angles rounded; posterior angles prominent and right; lateral striae moderately strong. Elytra about one-half as long again as the head and prothorax together; entire and evenly rounded behind; sides parallel and straight. Abdominal segments sub-equal. Scutellum small and triangular. Antennae visibly shorter than the head and prothorax together; first joint equal in length to eye, second smaller, third to eighth still smaller and globular, eighth joint smallest, ninth to eleventh abruptly enlarged and flattened, forming a loose club. Length 1.2—1.8 mm.

Plate VII, Fig. 4.

Resembles *angustulus* in the antennae and length of elytra, and *ferrugineus* in depression of body and form of prothorax. Rare in collections; one specimen (LeConte) Fla. two specimens (Schwarz) Fla. and D. C.

19. ***L. extricatus*** n. sp.—Form moderately elongated, depressed. Surface of head and prothorax rather closely and coarsely punctured and pubescent. Elytra striate, striae very feeble. Color dark testaceous; elytra, legs and antennae paler. Head sub-triangular, bordered; eyes small, convex and well advanced. Prothorax wider than the head, very slightly broader than long, and perceptibly narrowed behind; sides slightly arcuate; anterior angles a little rounded, posterior angles acute; lateral striae distinct, traces of a second one being also visible. Elytra one-half as long again as the head and prothorax together, and much wider than the latter; entire and evenly rounded behind; sides parallel and slightly arcuate. Scutellum small and transverse. First abdominal segment about twice the length of the second, next three equal, fifth a little longer than the fourth. Antennae equal in length to head and prothorax together, first joint moderately elongated, second smaller and cylindrical, third and fourth much smaller, equal and sub-globular, fifth longer and cylindrical, sixth like fourth, seventh like fifth, eighth smallest and globular, ninth to eleventh larger and not perceptibly flattened; all moderately pubescent.—Length 1.8 mm.

Plate VII, Fig. 5.

One specimen from Missouri is before me.

20. ***L. alternans*** Er.—Form moderately elongated and depressed. Surface shining; punctures on head and prothorax rather fine, coarser on the latter; elytra striate and foveate; foveae large, and arranged in rows. Pubescence on head and prothorax rather dense and fine; that on elytra is shorter, coarser and in the form of erect setae, which are arranged in closely approximate rows. Color pale testaceous, legs a little lighter. Head sub-triangular, large; eyes advanced on sides of head, small and flat; median line visible. Prothorax a little narrower than the head, slightly wider than long, and feebly narrowed behind; sides nearly straight; anterior and posterior angles right; lateral striae well marked and equidistant from the sides throughout. Elytra about one-fourth as long again as the head and prothorax together, as wide as head, obtusely truncated behind, and entire; sides parallel and nearly straight. Abdominal segments equal. Antennae equal in length to the elytra; first joint very moderate, second smaller, third to eighth still smaller, moniliform and slightly elongated, ninth to eleventh somewhat abruptly larger and flattened, last joint more elongated and cylindrical than tenth; all densely pubescent. Length 1.9 mm.

Plate VII, Fig. 6.

A cosmopolitan species, but rather rare.

21. ***L. ferrugineus*** (Steph.)—Form moderately elongated, depressed; sides parallel. Punctures on head and prothorax coarse and close; elytra striate, striae closely approximate. Pubescence on head and prothorax long and abundant, that on elytra shorter, and in the form of erect setae arranged in very even rows. Surface moderately shining. Color dark testaceous. Head sub-triangular; median line distinct; eyes small, convex and slightly advanced. Prothorax as wide as head, length and breadth equal, very slightly narrowed behind; sides very moderately arcuate; anterior and posterior angles right; lateral striae rather faint. Scutellum small and evenly rounded behind. Elytra one-half as long again as the head and prothorax together, equal in width to the latter, entire, and evenly, though somewhat obtusely rounded behind; sides parallel and nearly straight. Abdominal segments sub-equal. Antennae equal in length to about one-half of

depressed. Surface
and pubescent. Ely-
tra legs and antennae
and well advanced,
long, and perceptibly
the rounded, poste-
rior being also visible,
longer, and much wider
parallel and slightly
segment about twice
longer than the fourth.
First joint moderately
much smaller, equal
to seventh like fifth,
perceptibly flattened;

the body; first joint very moderate, second smaller, third to eighth still smaller and slightly elongated, sub-equal; ninth to eleventh longer and broader, but not appreciably flattened; all densely pubescent. Length 1.4—1.7 mm.

Plate VII, Fig. 7.

This is also a cosmopolitan species.

22. **L. pubescens** n. sp.—Form moderately elongated and very depressed; sides parallel. Punctures on head and prothorax rather close and fine; elytra obscurely and closely striate; entire surface covered with rather dense pubescence, which is somewhat long and fine, that on the elytra is arranged in exceedingly approximate rows. Color dark testaceous; elytra, legs and tips of antennae much paler. Head sub-triangular, rather small; front of epistoma slightly emarginate; sides of same deeply and acutely excavated; eyes rather large, a little advanced and not prominent; median furrow well developed. Prothorax a little wider than head, broader than long and very slightly narrowed behind; lateral striae well marked; sides almost straight; anterior angles rather acute; posterior angles right. Scutellum small, transverse and evenly rounded behind. Elytra broader than prothorax, nearly twice as long as the head and prothorax together, obtusely rounded behind, and entire; sides parallel and almost straight. Abdominal segments sub-equal. Antennae about three-fourths as long as the body; first joint elongated, second smaller, a little elongated, third to eighth yet narrower, elongated and sub-equal, ninth to eleventh longer, but no wider, sub-equal and cylindrical; all densely pubescent. Length 1.5—1.9 mm.

Plate VII, Fig. 8.

The pubescence of the elytra resembles somewhat that of *Horn*, but is longer. California.

depressed. Surface
on the latter; ely-
tra pubescence on head
coarser and in the
rows. Color pale
advanced on sides
narrower than the
is nearly straight;
and equidistant
as the head and
and entire; sides
antennae equal in
rd to eighth still
narrowly abruptly
than tenth; all

23. **L. truncatus** n. sp.—Form elongated, moderately depressed; sides parallel. Punctures of prothorax coarse and moderately close, those of head rather finer; elytra striate, striae punctate. Pubescence long and plentiful, that on elytra arranged in rows. Head moderate, very declivous in front of the line joining the bases of the antennae; median line visible; eyes very small, advanced and convex. Prothorax as wide as the head; very slightly broader than long and narrowed behind; lateral striae well developed; anterior and posterior angles acute. Scutellum small, evenly rounded behind. Elytra one-half as long again as the head and prothorax together, equal in width to the latter; entire and obtusely truncated behind, bordered; sides parallel, nearly straight. First three abdominal segments equal, last two much shorter and sub-equal. Antennae nearly as long as the entire body, first three joints moderate, slightly elongated, and decreasing in size; joints four to eleven gradually increasing in length and decreasing in width, density of pubescence increasing gradually toward the tip; basal joints strongly punctate. Length 1.9 mm.

Plate VII, Fig. 9.

One specimen, Michigan (Schwarz).

depressed; sides
striate, striae
abundant, that
even rows. Sur-
angular; median
prothorax as wide as
sides very mod-
erate rather faint.
long again as
e, and evenly,
nearly straight.
but one-half of

24. **L. pusillus** (Schön.) *Male*.—Form very moderately elongated, depressed. Punctuation rather fine and close on prothorax, coarser on head; elytra striate. Surface scarcely shining. Pubescence somewhat abundant, long and fine on head and prothorax, almost entirely absent on elytra. Color ferruginous, legs

and elytra paler. Head broad and large; eyes small, not prominent, and in advance of posterior angles their own length. Prothorax narrower than the head, rather strongly narrowed behind; anterior and posterior angles well developed; sides but slightly arcuate; lateral striae distinct. Scutellum very small and transverse. Elytra much narrower than prothorax, slightly longer than head and prothorax together, entire and obtusely rounded behind; sides parallel and straight. Abdominal segments very short, second, third and fourth equal, fifth almost twice the length of the fourth; antennae as long as the prothorax and elytra together; first joint moderate, first three decreasing gradually in size, fourth a little more elongated than the third; joints five to ten equal in length and width, eleventh equal in width but much longer; pubescence dense toward the tip. Length 1.7 mm.

Female.—Head narrower than prothorax, which is sub-quadrate and scarcely narrowed behind. Elytra more than one-half as long again as the head and prothorax together, rounded more acutely behind than in the male, and as wide as the prothorax. Antennae rather shorter than the elytra, and slightly enlarged at tip. Length 1.7 mm.

Plate VII, Figs. 10 and 10a.

The above description of the male is taken from LeConte's type of *puberulus*, which was considered by Crotch as identical with the male of *pusillus*. By comparing the specimen with the description and figure of the male of the latter species as given by Sturm, I can but agree with him in this decision. The only difference between the type of *puberulus* and perfectly normal specimens of *pusillus* ♂ is, that in the former the head and prothorax are more developed laterally, and the elytra have become denuded of the usual setiform pubescence.

The species is common and cosmopolitan.

25. ***L. denticornis*** n. sp. *Male*.—Form moderately elongated, depressed; sides parallel. Punctures of head and prothorax small, deep and sparse; elytra striate. Surface shining; color deep reddish testaceous; integuments dense. Pubescence of head very short and sparse, that on prothorax more plentiful, that of elytra exceedingly sparse and longer. Head sub-quadrate; front of epistoma transverse, the sides being straight and parallel, thus forming a short quadrate projection of the head in front of the line joining the bases of the antennae; median line well marked. Prothorax a little wider than the head, broader than long; anterior and posterior angles well marked; sides straight, slightly converging posteriorly; lateral striae distinct, partially double. Elytra one-third as long again as the head and prothorax together, as wide as the latter, entire and evenly rounded behind; sides slightly arcuate. Antennae as long as elytra, first joint one-half as long as the entire remainder, and provided anteriorly with a short, apical and arcuate tooth, which is nearly perpendicular to the axis of the joint; joints two to eight moniliform, third and eighth joints equal, sub-globular and much the smallest, three outer joints enlarged, but not flattened. Length 1.8 mm.

Plate VII, Fig. 11.

Two specimens, Texas (Schwarz). I have not been able to identify the female as yet, but it probably lacks the tooth of the first antennal joint. This species bears a certain resemblance to Reitter's *unicornis*.

UNIDENTIFIED SPECIES.

26. *L. longicornis* Mann. Bull. Mosc., 1843, II, p. 303.

I have not been able to find this species—which was described by Mannerheim from Sitka—for the reason that I have had no specimens at all from that region under examination. The statement made in its description, "*antennae corpore multo longiores*," coupled with the well-known accuracy of Mannerheim, would seem, however, to leave no doubt of its reality.

LATHROPUS Er.

Differs from the preceding in the following characters:

The antennae are very short; joints one and two large, three to eight very small, nearly globular and sub-equal, nine to eleven larger, sub-equal and forming a loose club. The spurs of the front tibiae are very minute and nearly equal. Fifth joint of tarsi nearly double the length of all the others. Form generally a little more convex.

Perhaps the most remarkable difference is in the sculpture, which can be very conveniently studied on the head of *vernalis*, it being glabrous. I found the head, under high power, to be covered with minute elongated markings, the nature of which could not at first be determined. By chance the light was coming very obliquely, and it could be seen that one side of the markings was in deep shadow, the other being brightly illuminated. The dark side was that which was farthest from the source of light, and proved the ornamentation to consist of small, elongated elevations; this form of sculpture is apparently unique in our Cuccididae.

The antennae are very different in structure from any in *Læmophlarus*, and the terminal joints do not seem to be flattened. The prothorax is transverse, a little longer than the head, with the sides arcuate and undulated. There does not appear to be any appreciable sexual difference.

Our species are very small and quite uncommon; they may be tabulated as follows:

- Color uniform; body glabrous above.....1. **vernalis**.
Elytra mottled with large patches of a paler tint; surface covered with exceedingly short and sparse setae.....2. **piectus**.
Color uniform; entire body covered with rather long and dense pubescence.
3. **pubescens**.

1. *L. vernalis* Lec.—Form moderately elongated, convex. Body dark, blackish castaneous, legs. front of head, labrum, and first eight joints of antennae paler. Surface above glabrous. Head and prothorax ornamented with small, elongated, closely approximate elevations; elytra punctato-striate, punctures large. Head small; eyes rather large, convex and in advance of posterior angles. Prothorax much wider than head, broader than long, convex; anterior margin arcuate;

lateral striae distinct; anterior angles rounded, posterior angles prominent and acute. Elytra twice as long as the head and prothorax together, broader than the latter, entire and evenly rounded behind; slightly bordered; inflexed sides broad at the base, gradually disappearing posteriorly; sides parallel and arcuate. Abdominal segments equal, pubescent. Antennae slightly longer than prothorax, moderately pubescent. Length 1.0—1.7 mm.

Plate VII, Fig. 13.

Atlantic and Mississippi regions. The largest and most common of our species.

2. ***L. pictus*** Sz.—Form moderately elongated, convex. Surface covered with exceedingly short and sparse setae, which on the elytra are arranged in rows; roughly and finely sculptured; elytra punctato-striate. Head, prothorax and irregular clouded spots on the elytra, as well as the legs and the first eight joints of the antennae, testaceous; the remainder of the body dark castaneous. Head small; eyes large, near the posterior angles, and convex. Prothorax broader than the head, convex; lateral striae distinct; anterior edge nearly straight; anterior angles somewhat acute, posterior angles prominent and acute. Scutellum small, sub-triangular. Elytra nearly twice the length of the head and prothorax together, slightly broader than the latter, entire and evenly rounded behind; sides parallel and arcuate. Abdominal segments equal; antennae equal in length to the prothorax, moderately pubescent, three outer joints much darker. Length 1.0—1.3 mm.

Plate VII, Fig. 14. Florida.

A much rarer species than the preceding.

3. ***L. pubescens*** n. sp.—Form moderately elongated and convex, entirely of a rather pale brownish castaneous. Surface of head roughly, though very finely sculptured, that of prothorax very finely granulate in texture, with large, coarse and close punctures; elytra striato-punctate and costate. Entire body covered with rather long, cinereous setae, which on the elytra are arranged in rows. Head moderate; eyes rather small, at the extreme posterior angles, convex. Prothorax wider than head, broader than long, convex; anterior edge moderately arcuate; fringe of cilia long and prominent; on the under surface this fringe is about one-fifth the length of the head; anterior angles rounded, posterior angles prominent and acute. Scutellum small. Elytra about one and three-fourths times the length of the head and prothorax together, entire and evenly rounded behind; sides parallel and slightly arcuate. Abdominal segments equal; antennae longer than the prothorax, densely pubescent, and with the three outer joints not darker. The terminal process of the last joint is almost as long as the remainder of the joint. Length 1.0 mm.

Plate VIII, Fig. 1. California.

Having picked out a very small specimen from among Dr. LeConte's examples of *pictus* for the purpose of measurement, it became apparent, upon close examination, that it was either an exceedingly aberrant specimen of the latter, or an undescribed species. Considering the locality, size, antennae and pubescence, I was led to the latter conclusion.

DYSMERUS n. gen.

This genus is founded upon a very singular insect collected by Mr. Schwarz in Florida; the specimen is probably a male, and is unique. It differs from *Lamophlæus* in the following particulars:

Second joint of antennae joined laterally to the first, which is of anomalous form. Outer joints not flattened; last joint wanting the terminal process, which is almost universal in *Lamophlæus*.

Although most closely allied to the above-mentioned genus, I feel warranted in separating it on account of the mode of attachment of the second joint of the antennae to the first, it being unlike anything existing in that genus, where the second joint is always joined to the apex of the first.

1. **D. basalis** n. sp.—Form elongated, very narrow, moderately depressed; sides parallel. Surface of head and prothorax covered very scantily with pubescence, and coarsely and rather closely punctured; elytra striate. Color ferruginous or dark reddish testaceous. Head elongate; eyes small, but prominent; in advance of posterior angles. Prothorax as broad as line across the eyes, as long as head and narrowed very slightly behind; sides straight; lateral striae apparent; anterior and posterior angles right. Scutellum very small and transverse. Elytra of same width as prothorax, longer than one-half of the body, entire, and rather obtusely rounded behind; sides parallel and straight; but slightly bordered. Abdominal segments equal and very short. Antennae nearly equal in length to head and prothorax together: first joint of very abnormal shape, one-half as long as the prothorax, and ciliated at its anterior tip, the second small sub-globular and affixed to the side of the first, third to eighth still smaller, equal and globular; joints nine to eleven much larger than the eighth, apparently not flattened; last joint ovulate. Length 1.7 mm.

Plate VII, Fig. 12.

The manner of connection of the first and second joints of the antennae forcibly reminds us of certain insects of the genus *Tesserocerus* in the Platypides, the first joint, however, in the latter genus is much more slender and prolonged farther beyond the point of juncture.

Tribe II.—BRONTINI.

This tribe contains but two genera, and three species which resemble greatly their European representatives; the genera may be separated as follows:

Sides of prothorax entire; anterior angles rounded; mesosternum truncate in front. **Dendrophagus.**
Sides of prothorax strongly and minutely serrate; anterior angles strongly toothed; mesosternum emarginate in front. **Brontes.**

DENDROPHAGUS Schön.

Mentum strongly transverse, sinuate anteriorly. Ligula corneous, feebly emarginate anteriorly. External lobe of maxillae short and broad, ciliated at the tip; internal lobe small, terminated by a corneous hook. Palpi short and robust, the last joint ob-conical. Mandibles short, arcuate, bidentate at the tip, and provided with a ciliated border internally. Labrum transverse, truncate and ciliated anteriorly. Eyes small, rounded, not prominent. Prothorax elongate, parallel and entire. Legs short, femora enlarged near the middle, and compressed; tibiae straight, terminated by a very short spur. Tarsi pentamerous, slender; first joint very short, second and third longer, sub-equal, fourth short, last very long. Body very depressed.

We have but one species.

1. **D. glaber** Lec.—Form elongate and depressed; sides parallel. Surface deeply and coarsely punctured, punctures closer on prothorax than on head; elytra striato-punctate; covered very sparsely with fine short setae, which are longer and closer on the under side. Color dark brownish black. Head sub-quadrato, with two lateral grooves from the front, which do not extend to the posterior margin. Prothorax one-half as long again as the head, as broad as the latter, and not margined; anterior angles rounded, sides parallel and in-curve before the middle, then converging rapidly behind. Elytra twice as long as the head and prothorax together, much broader than the latter, entire and evenly rounded behind; sides parallel and straight. Antennae nearly as long as the elytra, filiform, first joint as long as head, second very small, third longer, fourth to last sub-equal, last joint narrowly acuminate at tip; all moderately pubescent. The legs and antennae are a little paler in color than the body. Length 5.8—7.0 mm.

Plate VIII, Fig. 2.

Very widely distributed throughout the Northern regions of the United States and in British America. Resembles the European species, of which it is probably a variety only.

I have under examination a specimen from the N. W. Territory, which I am forced to refer to this species. It however represents a rather remarkable variety, and is undoubtedly the same as Mannerheim's *D. americanus*. It is a little more than two-thirds the length of the normal form, and of a very light color. The elytra are paler in color at and near the humeri. The prothorax is also relatively a little more coarsely punctured.

Although this may represent a genuine species, I am unwilling to regard it in that light without other specimens.

BRONTES Fab.

Differs from the preceding in the following characters:

Ligula corneous, cordate; last joint of the maxillary palpi ovulate and acuminate at the tip, that of the labial cut very obliquely, and prolonged in a long acute process. The genus is closely allied to *Dendrophagus* and differs only in the above characters and those mentioned in the table.

We have two species which may be distinguished as follows:

Elytra of male angled posteriorly; head and prothorax paler in color than elytra.....1. **dubius**.
Elytra male and female evenly rounded behind; head and prothorax of same color as elytra.....2. **debilis**.

1. **B. dubius** Fab.—Form moderately elongated, very depressed. Surface punctate, punctures very large, and so close as to be almost confluent; elytra punctato-striate, covered with very short, stout and sparse, cinereous setae, which on the elytra are arranged in rows. Color brownish black; head, prothorax, legs and antennae paler. Head sub-quadrate, tri-lobed by two grooves, which extend almost to the posterior margin. Prothorax wider than head, broader than long, narrowed posteriorly; sides minutely serrate, sinuate; anterior angles very prominent and toothed, posterior angles rounded broadly. Elytra broader than prothorax, more than twice as long as head and prothorax together, entire; angled without, posteriorly $\frac{3}{4}$, evenly rounded behind $\frac{1}{2}$; strongly bordered; sides parallel and straight; inflexed sides broad and well developed. Antennae filiform, as long as the entire body, first joint slightly longer than the head, narrow and almost straight, second very small, third to eleventh sub-equal and more elongated, last joint narrower and somewhat rounded at the tip; all densely pubescent. Scutellum angulated slightly behind. The male has two very arcuate horn-like processes on the mandibles which the female does not possess. Length 4.8—5.8 mm.

Plate VIII, Fig. 3. Southern States.

Var. *truncatus* Mots.—Differs from the preceding in its smaller size. The antennae are somewhat shorter, and the sides of the prothorax are straighter, there being hardly any perceptible sinuosity behind the anterior tooth. Length 4.2—5.0 mm.

Plate VII, Fig. 3e. California.

2. **B. debilis** Lec.—Form elongate, depressed. Punctures of head and prothorax very large, deep, irregular and approximate, in some spots confluent; elytra punctato-striate and costate. Surface clothed with very short, robust and sparse, yellowish setae, arranged in rows upon the elytra; color deep black; antennae and mouth parts paler; abdominal segments somewhat paler and pubescent. Head sub-quadrate, longitudinal grooves not reaching the posterior border. Prothorax wider than head, broader than long, narrowed behind; sides minutely serrate, sinuate; anterior angles very prominent and toothed, posterior angles rounded. Scutellum evenly rounded behind. Elytra two and one-half times the length of the head and prothorax together, slightly wider than the latter, entire, and evenly rounded behind in both sexes, broadly margined; inflexed sides well developed; sides parallel and slightly arcuate. Antennae as long as the elytra and prothorax together, filiform, first joint much longer than the head, sinuate and broader toward the tip, second very small, third to eleventh sub-equal and elongated, last joint longer and almost imperceptibly narrower, acute at tip; all densely pubescent. Length 4.2—5.3 mm.

Plate VIII, Fig. 5. North Eastern United States.

This is the common Northern species, while *dubius* is more plentiful at the South. They are quite distinct.

Sub-Family IV.—HEMIMEPLINAE.

This sub-family contains but one genus.

HEMIMEPLUS Latr.

Mentum transverse, feebly emarginate; ligula long, coriaceous and bilobed; lobes rounded and ciliated. External lobe of maxillae depressed, sub-oval, arcuate and slightly ciliated at the tip; internal lobe smaller, truncated and slightly ciliated at the extremity. Labial palpi very small, last joint depressed and truncated at the tip; maxillary palpi with the last joint securiform. Mandibles short, arcuate and acute. Labrum sub-quadrate, transverse, sinuate anteriorly. Head sub-quadrate, broadest at the eyes, front squarely truncated. Eyes moderate or large, convex and prominent; antennae inserted at the extremities of the frontal truncation; sides of prothorax sinuate; scutellum moderate. Elytra greatly elongated, not covering entire abdomen. Legs short, femora oval, very compressed; tibiae almost straight. Tarsi heteromericous in both sexes, first four joints bilobed. Body extremely elongated and depressed.

We have two species, distinguished as follows:

Eyes large; sides of prothorax entire.....1. **marginipennis**.
Eyes small; sides of prothorax very slightly undulated.

2. **microphthalmus**.

1. **H. marginipennis** Lec.—Form extremely elongated and depressed. Punctures of head rather coarse, irregular and sometimes confluent; those of prothorax much finer, and so confluent as to present simply a roughened appearance. Elytra not punctured. Body pale yellowish testaceous. Head sub-quadrate. Eyes very large, convex and prominent. Tarsi 5—3—4 in both sexes.

Male.—Prothorax as wide as head across the eyes; sides sinuate, a deep puncture near each posterior angle. Elytra about two and three-fourths times the length of head and prothorax together, margined, obscurely striate, and with a coarse cellular texture; squarely truncate behind, and leaving almost the entire fifth ventral segment exposed. Body above entirely glabrous, with the exception of the exposed abdomen; below pubescent; fifth ventral segment longer than the fourth. Tibiae terminated by two stout, black spurs; first joint of posterior tarsi equal in length to last, but much larger and more robust, otherwise as in female. Antennae equal in length to head and prothorax together; first joint much elongated, second small, the remainder gradually increasing in size. Terminal process of last joint very well developed; all densely and very finely pubescent. Length 8.0 mm.

Female.—Prothorax narrower than head, length equal to breadth, front sinuate; a deep puncture near each posterior angle, the latter prominent, anterior angles rounded; sides sinuate. Elytra nearly three times the length of the head and prothorax together, broader than the head, rather squarely truncated behind, and leaving the tip of the last ventral segment exposed. Tibiae terminated by two short, stout, black spurs; first joint of posterior tarsi much the longest and largest, first 4—4—3 joints bilobed, large and densely pubescent beneath; terminal joints slender; upper surface of body covered densely with short setae. Abdominal segments equal; elytra not punctured, and not striate, feebly margined. Antennae somewhat longer than head and prothorax together; first joint short and very

robust, second very small, the remainder gradually increasing in size; last joint terminated by a narrow process; all densely and very finely pubescent, with a few larger hairs. Length 5.0 mm.

Plate VIII, Figs. 6 and 6*d*.

A rather abundant species under palmetto bark in the Southern States (Schwarz).

2. ***H. microphthalmus*** Sz.—Form excessively elongated, depressed. Body punctured much the same as in the preceding species; elytra obscurely impressed. Head nearly glabrous, prothorax glabrous, elytra clothed with rather sparse and somewhat coarse pubescence; tarsi as in the preceding species. Head sub-quadrate, constricted behind; eyes small, very coarsely granulated; genae distinct. Prothorax as broad as head across the eyes, length equal to breadth, front emarginate; sides sinuate and obscurely undulated. Elytra equal in width to head, two and one-half times as long as the head and prothorax together, each elytron evenly rounded behind, leaving tip of last ventral segment exposed; sides parallel and straight.

Male.—Antennae somewhat longer than head and prothorax together; same as in female, except that the last three joints seem to be a trifle more abruptly enlarged, and the last joint is broader, with the terminal process well developed. Length 3.2 mm.

Female.—Antennae as long as head and prothorax together; first joint robust and ovulate; second small, the other gradually increasing in size; terminal process of last joint not so well developed; all densely and somewhat finely pubescent, with a mixture of longer hairs. Length 3.2 mm.

Plate VIII, Fig. 7.

Three specimens are before me, one each from Tampa, Enterprise, and Baldwin, Fla. (Schwarz), I have also seen three other specimens in the cabinet of the Agricultural Department at Washington. They do not seem to present any perceptible variation, except a very slight widening of the prothorax in one specimen which I have taken as the male. The two punctures of the prothorax are the same as in *margipennis*. Found flying at night (Schwarz).

NOTE.—I had already come to the above conclusion respecting the sex of *Hemipeplus* before hearing of a discussion which had been carried on between two of our most distinguished coleopterists some years before on this same subject. Upon learning this, however, I sought to revise my decision, and renewed observation has only tended to confirm it. The following are my reasons for this adherence:

It has usually been accepted as a fact that *Hemipeplus* belongs to the Cucujidae, and in the immediate neighborhood of *Brontes*; its affinities must therefore be with the general characters of the Cucujidae on the one hand, and more particularly with those of *Dendrophagus* and *Brontes* on the other. We have also the following well known facts:

1. Throughout *Iæmophlæus*, *Lathropus*, *Dendrophagus* and *Brontes*, the males are distinguished from the females by the larger size of the former, as well as by their longer and more slender antennae.

2. Whenever there is a difference in the length of the first joint of the antennae owing to sex, the male has this joint the longer.

Coming within closer range, and considering the special sexual characters of *Brontes*, we have the following facts:

1. In the male the elytra are much more truncate at the posterior extremities than are those of the female.

2. The last abdominal segment of the female is about equal in length to the fourth, while in the male the last abdominal segment is nearly twice the length of the fourth.

We have therefore two general and two special sexual characters, the latter in a genus acknowledged to be very closely allied to *Hemipeplus*.

In *Hemipeplus marginipennis*, the larger specimens with elongate prothorax, differ from the smaller with quadrate prothorax in the following points:

1. In the former the antennae are longer and proportionally more slender.

2. In the former the first joint of the antennae is much elongated, while in the latter the first joint is nearly sub-globular.

3. The elytra of the former are very much more squarely truncated behind than are those of the latter.

4. The fifth abdominal segment in the former is longer than the fourth, while in the latter it is equal in length to the fourth.

One of the larger specimens which I have examined happened to have the sexual appendage protruding, and I have dissected a small specimen and examined the corresponding appendage. On comparing these with the penis and ovipositor of *Brontes*, respectively, I find a general resemblance, although it is not so satisfactory as the conclusion derived from the general considerations given above.

Sub-family V.—TELEPHANINAE.

This sub-family comprises two tribes, each of which consists of but a single genus. These tribes may be distinguished as follows:

Last joint of maxillary palpi securiform.....	I. TELEPHANINI.
Last joint of maxillary palpi acuminate.....	II. CRYPTAMCRPHINI.

Tribe I.—TELEPHANINI.

One genus has thus far been described from the regions here considered.

TELEPHANUS Er.

Last joint of maxillary palpi cut obliquely, securiform; that of the labial is cuneiform but truncated transversely. Mandibles short, robust and arcuate. Antennae variable in length; first joint long and fusiform. Prothorax generally longer than broad, constricted behind. Elytra broader than the prothorax, subparallel, a little narrowed and rounded behind. Legs slender, moderately long; posterior femora swollen; tarsi pentamerous; last joint bilobed.

Although the species in Mexico and South America are numerous, we have thus far only discovered two within our territory. It is, however, likely that others will be found. These species may be differentiated as follows:

Color ochreous yellow; head black.....1. **velox**.
Color of elytra dark brownish piceous; head and prothorax unicolorous, and of a dark fuscous tint.....2. **LeContel**.

1. **T. velox** Hald.—Form elongated. Head and prothorax equal in width; elytra one and three-fourths times the length of the head and prothorax together. Head black, remainder of the body yellowish testaceous. Elytra densely and coarsely pubescent. Head and prothorax more sparsely so; entire surface coarsely and closely punctured. Antennae about as long as elytra, darker toward the tip. Fifth abdominal segment much shorter than the fourth. Tarsi pubescent beneath. Length 4.0 mm.

Plate VIII, Fig. 4. Widely diffused.

This well known and graceful insect is very common under rubbish of various sorts, and as its name implies, runs with very remarkable swiftness. It is often mistaken at first sight for a Carabide from its habits and gait. The large securiform joints of the palpi often protrude in front of the labrum in such a manner as to give the appearance of a double horn-like process.

2. **T. LeContel** n. sp.—Form elongated and moderately convex. Head and prothorax moderately pubescent; pubescence of elytra long, moderately dense, and arranged in very closely approximate rows. Entire body dark brownish piceous; head and prothorax dark reddish testaceous, or dark fuscous. Head nearly quadrate; sides parallel, or nearly so; inter-antennal groove distinct; length from clypeus to posterior margin slightly greater than width at the last point; densely punctate; eyes moderate; antennae about equal in length to those of *T. velox*; of same color as head with the exception of the last joint, which is somewhat paler in tint; first joint nearly equal in length to the next three together. Prothorax nearly quadrate; sides parallel, and almost straight for three-fifths of the length, then converging moderately; surface closely punctured. Elytra twice as long as broad, punctato-striate; punctures large; interspaces much wider than the punctures; sides nearly parallel, and very slightly arcuate for four-fifths of the distance from the humeri, then together somewhat acutely rounded behind; humeral angles rather acute; surface shining through the pubescence; under surface of body of same color as the elytra, or but very slightly darker; legs somewhat paler. Abdominal segments moderate and successively decreasing in length posteriorly. Length 3.8 mm.

The unique specimen of this species was received too late to admit of figuring; it is much more robust than *T. velox*, which it otherwise resembles in some respects; in color, however, it is entirely different.

After examining all of Grouvelle's recently described species of this genus, without being able to identify it among them, I am quite confident of its being new to science.

One specimen collected in Southern Arizona by Mr. Morrison.

I have dedicated this species to the late Dr. J. L. LeConte, as a slight token of regard for this most eminent coleopterist.

Tribe II.—CRYPTAMORPHINI.

One genus in which, thus far, but one species has been described.

CRYPTAMORPHA Woll.

Body elongate, parallel, depressed, similar to *Psammæcus*. Prothorax sub-cylindrical. Scutellum distinct, transverse. Labrum porrected, transverse, ciliated anteriorly. Mandibles distinct, bases broad, tips bidentate. Maxillae bilobed. Last joint of maxillary palpi fusiform and sub-acuminate; truncated at the base; that of labial securiform; mentum short, transverse. Ligula membranous. Legs cursorial, tibiae unarmed; tarsi heteromerous in the males, pentamerous in the females, pubescent; first joint abbreviated, second and third a little longer and equal, fourth excessively small, and immersed in the lobes of the third, last elongated; claws simple.

1. **C. Desjardinsi** (Guér).—Form as in preceding genus. Pubescence moderately long and abundant on elytra, less abundant on head and prothorax. Punctures of head and prothorax rather small, shallow, and moderately approximate; elytra strongly and coarsely punctate-striate; the surface of the thorax exhibits a granular texture. Color testaceous, antennae darker toward the tip; narrow lines of dark castaneous extend on the internal edges of the elytra, from the base to a point slightly posterior to the middle, where they diverge very obliquely toward the exterior edges terminating at two-thirds of the distance, at the same time becoming broader and somewhat irregular. Head sub-quadrate, two latero-grooves starting at the front extend to within one-third its length from the posterior margin; eyes prominent and convex. Prothorax slightly narrower than width across the eyes, longer than broad; sides at first parallel and straight, then converging posteriorly; anterior angles rounded; sides provided with stiff bristles. Elytra broader than head, twice as long as head and prothorax together; sides slightly converging posteriorly. Antennae perceptibly longer than head and prothorax together; outer joints slightly broader, flattened and truncated transversely behind; sides sinuate; first joint enlarged and ovulate. Length 3.8 mm.

Plate VIII, Fig. 8. Cosmopolitan.

Resembles *Psammæcus* but differs in the antennae and oral organs. It is a graceful insect, very rapid in its movements, and similar in its habits to *Telephonus*. The very few specimens thus far taken in this

country from the Pacific Coast were undoubtedly brought in articles of commerce. It has also been described from Madagascar, St. Helena and Madeira, and under three different generic names.

NOTE.—Lest some ambiguity may be apparent in the use of the term "margined" as used with reference to the prothorax in the preceding pages, it may be stated that in all my writings it will be understood to mean that the prothorax is limited laterally by a narrow surface, which is usually raised, but which in some cases may be continuous in elevation with the general surface and limited internally by a striated or grooved line.

Again when the term "edge" is employed in describing the pronotum, it will have reference to the boundaries of that part when considering the vertical cross-section, and the phrase would then read "edges acute," or "edges rounded." When the term "side" is spoken of, it will relate to the conformation of the lateral boundary of the pronotum with reference to its nature as a line, this line being the horizontal projection of the boundary as seen when viewed perpendicularly, and the phraseology to be employed will be "sides arcuate, straight or sinuate," or various modifications of these terms.

These matters are brought up at this time in order, if possible, to render the phraseology a little more concise and uniform. A striking example of this want of uniformity, is seen in the use of the term "margined," Dr. Sharp using the word as defined above, while one or two of our leading coleopterists have used it to indicate that the edges of the pronotum are acute, which is evidently an abnormal use, and one, the meaning of which, would be decidedly unintelligible to a person not familiar with this particular employment, however well-versed he might be with its usual signification as an English word.

In the case of *Nartherius*, as defined in the table of genera composing Group I of the Cucujinae, the expression "prothorax margined," has reference to the surface included between the lateral striae and the sides of the pronotum, and perhaps it would be less ambiguous to say in this case that the prothorax is striated in *Nartherius* and not striated in *Pediacus*, because of the comparatively great distance between these striae and the sides in the former genus.

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Explanation of the Plates.

NOTE.—The small vertical marks refer in all cases to the length of the entire insect, and never to the part to which they may be attached.

PLATE IV.

- Fig. 1. *Silvanus merinamensis*.
1 a.—Antenna.
- Fig. 2. *S. bidentatus*.
2 a.—Antenna.
2 b.—Under surface of head.
2 c.—Tarsus.
2 d.—Maxillary palpus.
2 e.—Punctuation of surface near scutellum.
- Fig. 3. *S. planatus*.
- Fig. 4. *S. imbellis*.
- Fig. 5. *S. quadricollis*.
5 a.—Antenna.
5 b.—Mandible.
- Fig. 6. *S. advena*.
6 a.—Antenna.
- Fig. 7. *S. vertus*.
7 a.—Antenna.
- Fig. 8. *S. opaculus*.
8 a.—Antenna.
- Fig. 9. *Nansibius dentatus*.
9 a.—Antenna.
9 b.—Middle tarsus.
9 c.—Maxillary palpus.
- Fig. 10. *N. repandus*.
10 a.—Antenna.

NOTE.—The lines on the prothorax of this figure are not intended for striae, but simply to mark the line along which the surface becomes rapidly declivous.

- Fig. 11. *Scalidia linearis*.
11 a.—Antenna.
11 b.—Tarsus.
- Fig. 12. *Prostomis americana*.
12 a.—Antenna.
12 b.—Under surface of head showing jugular processes.
- Fig. 13. *Narthecius grandiceps*.
13 a.—Tarsus.
13 b.—Maxillary palpus.

PLATE V.

- Fig. 1. *Narthecius grandiceps*.—Head enlarged.
1 a.—Under surface of head showing incipient jugular plates.
1 b.—Antenna.
- Fig. 2. *Catogenus rufus*.
2 a.—Anterior tarsus.
- Fig. 3. *Cucujus puniceus*.

- length of the entire
- Fig. 4. *Pediacus depressus*.
 Fig. 5. *P. fuscus*.
 Fig. 6. *P. depressus* var. *subglaber*. Taken from Dr. LeConte's type. Attention is called to the deformity to be seen in the left antenna.
 Fig. 7. *Ino reclusa*.
 7 a.—Antenna.
 7 b.—Anterior tarsus.
 Fig. 8. *I. immunda*.—Antenna.
 Fig. 9. *Læmophloeus biguttatus* ♂.
 9 a.—Three terminal joints of antenna viewed horizontally.
 9 b.—Same viewed vertically.
 Fig. 10. *L. LeContei* ♂.
 Fig. 11. *L. floridanus* ♂.

PLATE VI.

- Fig. 1. *L. floridanus*.—Antenna ♂.
 Fig. 2. *L. terminalis* ♂.
 2 a.—Last three joints of antenna viewed horizontally.
 Fig. 3. *L. fasciatus* ♂.
 3 a.—Last four joints of antenna viewed horizontally.
 Fig. 4. *L. chamæropis*.
 Fig. 5. *L. modestus*.
 Fig. 6. *L. convexulus*.
 Fig. 7. *L. adustus*.
 Fig. 8. *L. testaceus* ♀.
 Fig. 9. *L. nitens* ♂.—Taken from Dr. LeConte's type-specimen.
 Fig. 10. *L. punctatus* ♂.—Taken from Dr. LeConte's type-specimen.
 Fig. 11. *L. Horni*.
 Fig. 12. *L. rotundicollis*.
 Fig. 13. *L. punctatus* ♀.

PLATE VII.

- Fig. 1. *L. quadratus*.
 Fig. 2. *L. cephalotes*.
 2 a.—Head greatly enlarged.
 2 b.—Antenna.
 2 c.—Tarsus.
 Fig. 3. *L. angustulus*.
 Fig. 4. *L. Schwarzi*.
 Fig. 5. *L. extricatus*.
 Fig. 6. *L. alternans*.
 Fig. 7. *L. ferrugineus*.
 Fig. 8. *L. pubescens*.
 Fig. 9. *L. truncatus*.
 Fig. 10. *L. pusillus* ♂.—Taken from Dr. LeConte's type of *L. puberulus*.
 10 a.—*L. pusillus* ♀.
 Fig. 11. *L. denticornis*.
 Fig. 12. *Dysmerus basalis*.
 Fig. 13. *Lathropus vernalis*.
 Fig. 14. *L. pictus*.

PLATE VIII.

Fig. 1. *Lathropus pubescens*.

1 a.—Antenna of same.

1 b.—Tarsus of *L. vernalis*.Fig. 2.—*Dendrophagus glaber*.

2 a.—Anterior tarsus.

2 b.—Mandibles at tips.

2 c.—Maxillary palpus.

Fig. 3.—*Brontes dubius* ♀.Fig. 3 e.—*B. truncatus* ♀.

3 a.—First joint of antenna.

3 b.—Posterior portion of elytra ♂.

3 c.—Mandible ♂.

3 d.—Scutellum.

Fig. 5. *B. debilis*.

5 a.—Tarsus.

5 b.—Maxillary palpus.

5 c.—First joint of antenna.

5 d.—Scutellum.

Fig. 4. *Telephanus velox*.

4 a.—Antenna.

4 b.—Tarsus.

4 c.—Maxillary palpus.

4 e.—Sculpture of elytra.

Fig. 6. *Hemipeplus marginipennis* ♂.

Fig. 6 d.—Same. ♀.

6 a.—Middle tarsus ♂.

6 b.—Antenna ♂.

6 c.—Front of head and labrum ♂.

6 e.—Basal joints of antenna ♀.

6 f.—Posterior tarsus ♀.

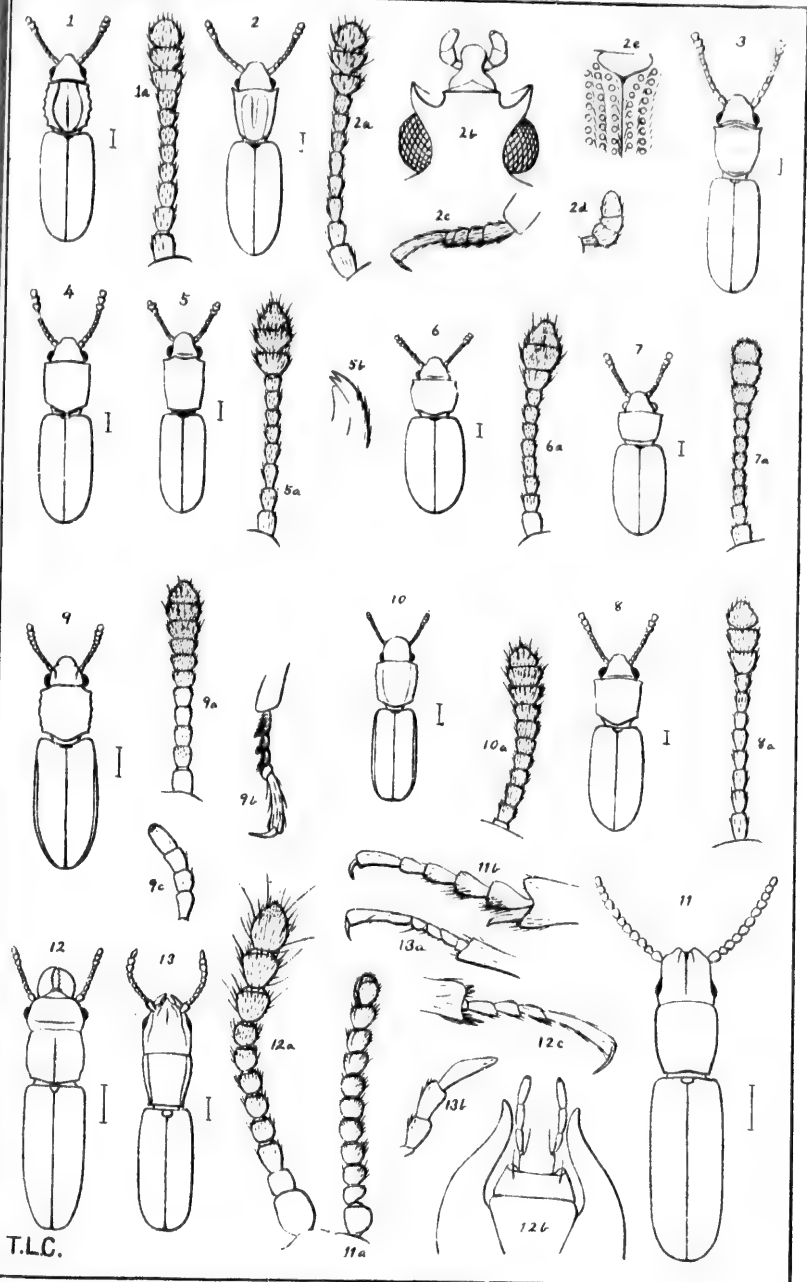
6 g.—Posterior ends of elytra ♀.

Fig. 7. *H. microphthalmus*.—Head.

7 a.—Posterior ends of elytra.

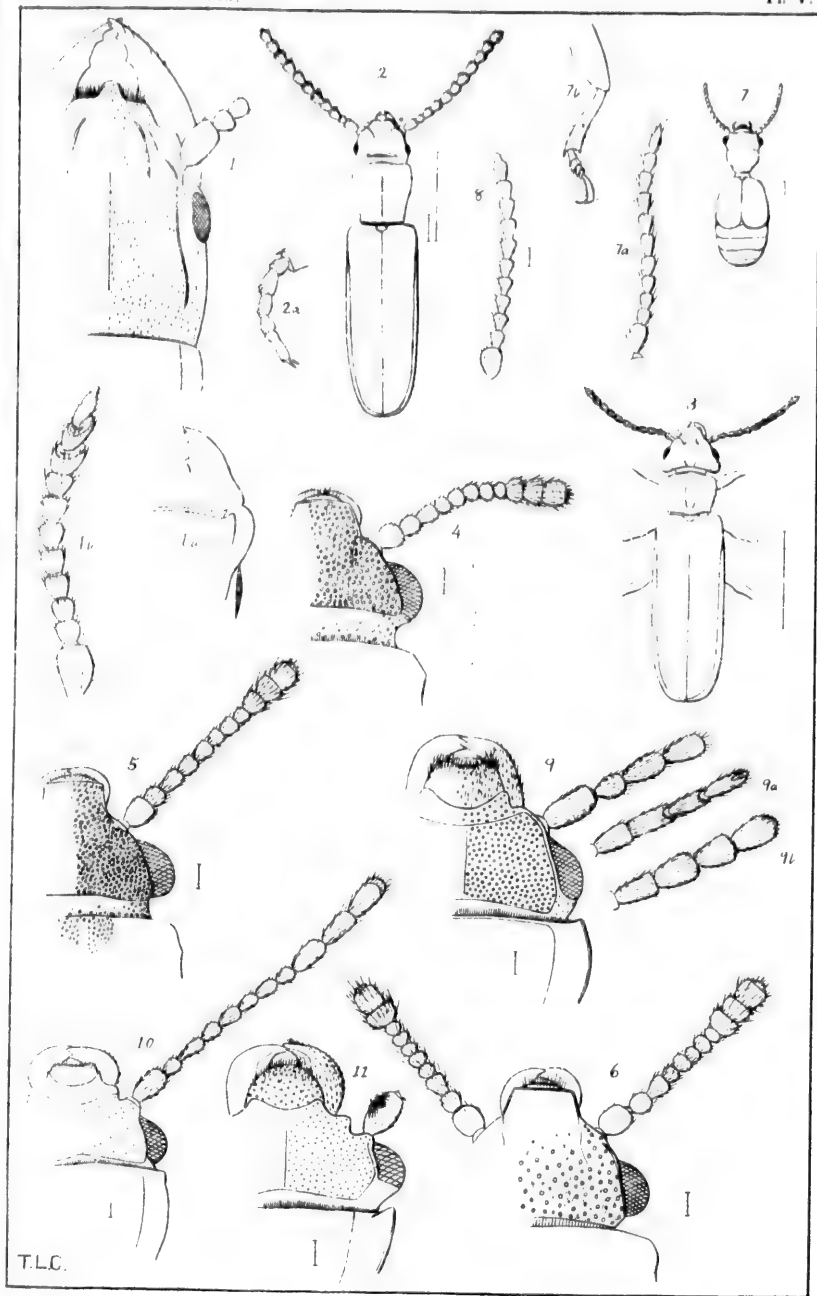
Fig. 8. *Cryptamorpha Desjardinsi*.

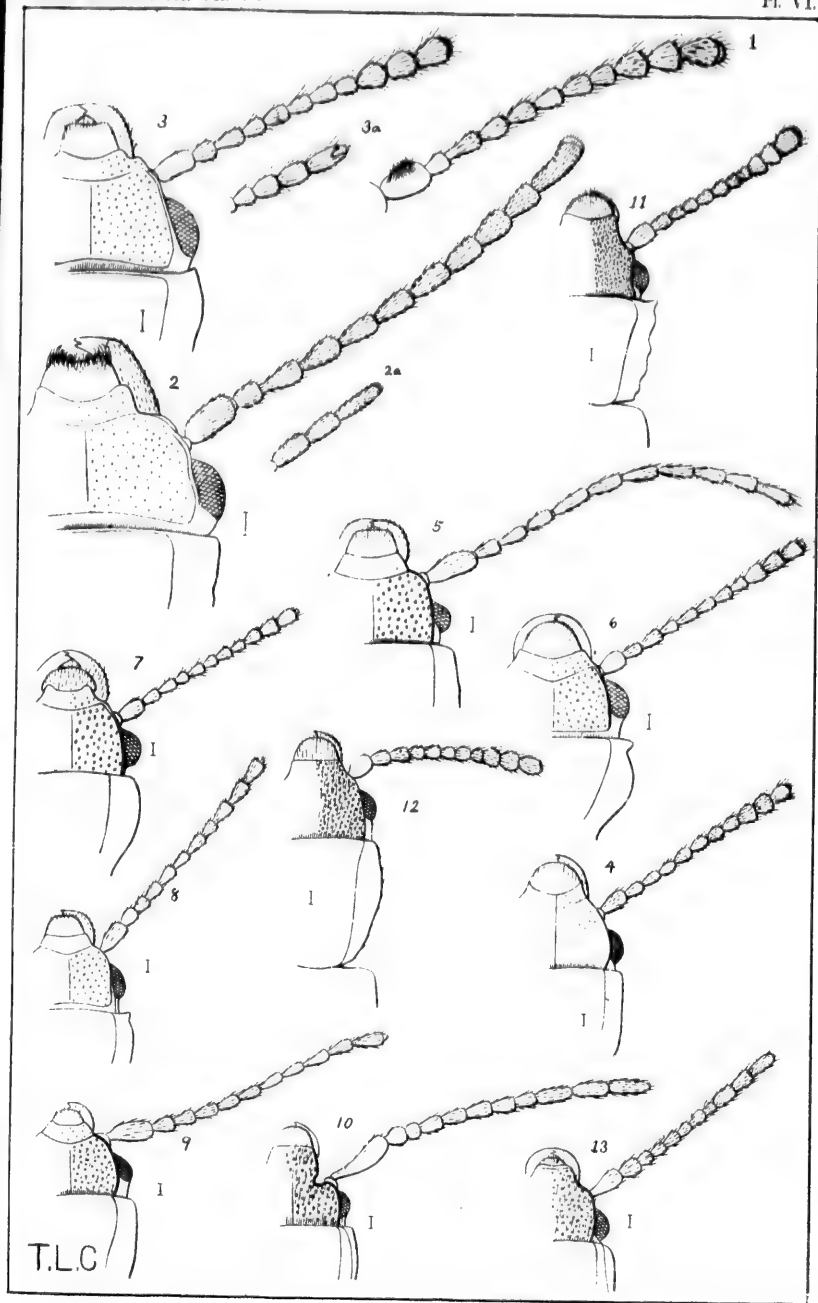
8 a.—Antenna.



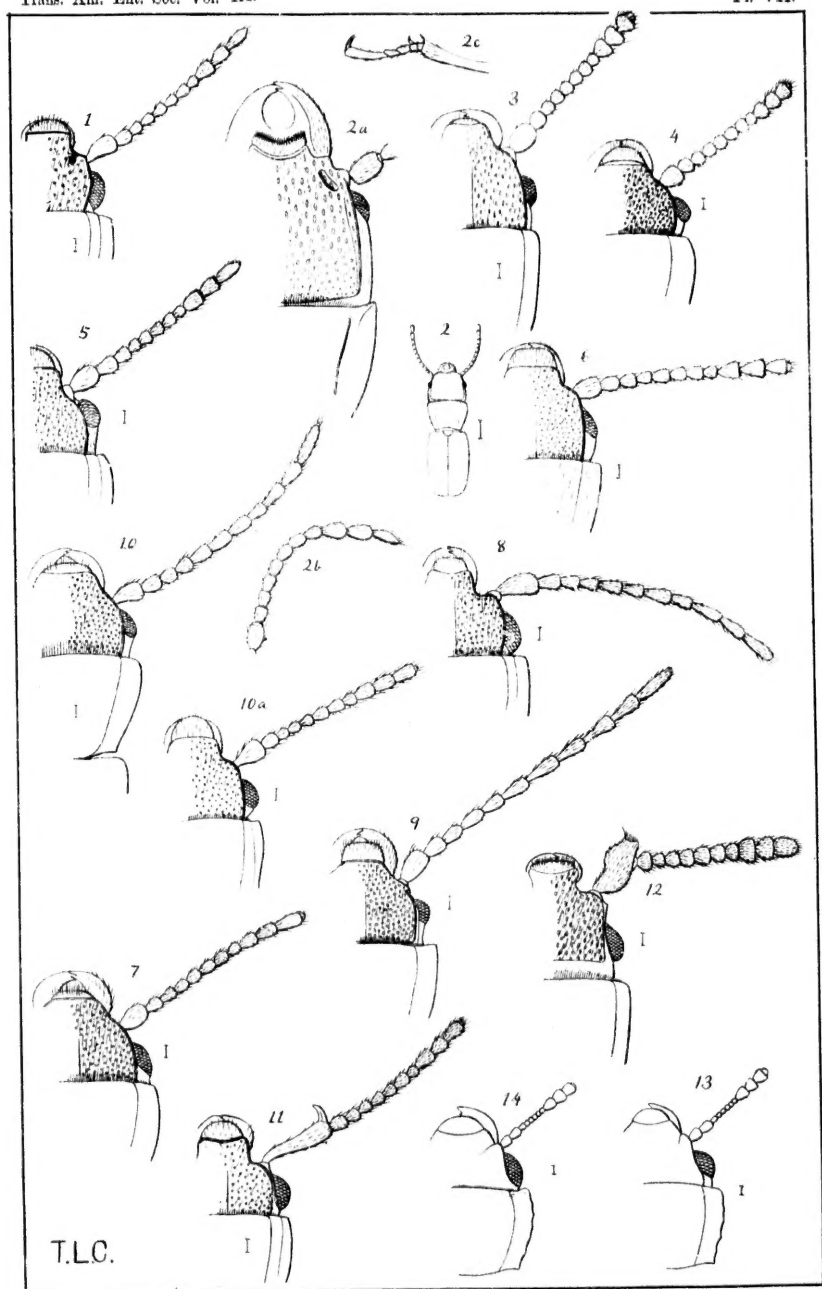
Y
A

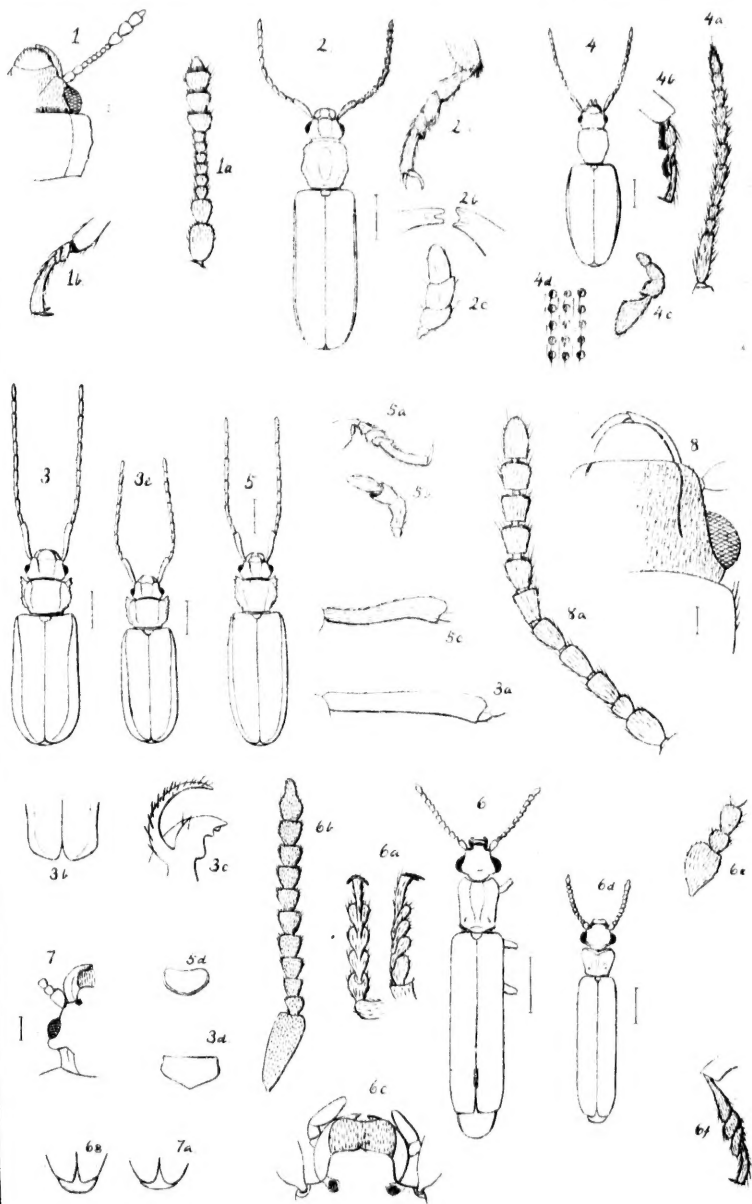
T.











T.L.C.